

THE

Science Library

Desert

JULY 2 1946

M A G A Z I N E



JULY, 1946

25 CENTS

LETTERS...

Probably a Rattlesnake . . .

Rialto, California

Dear Editor:

A few weeks ago my family and I had the good fortune to meet your botanist, Mary Beal.

It was a cool day on the coastal side of the mountains and we wanted to explore some of the desert trails before the summer heat arrived.

Northeast of Victorville we dropped a stone in a mine shaft to listen for depth, and heard a loud hissing like escaping gas, I thought. More rocks, more hissing. Try barking, I whispered to our son Norman—and every time he barked there was another burst of hissing. A cat's lair, do you suppose?

Continuing to Daggett we were looking for a camping spot, and asked directions of a lady bound for the postoffice. Her hospitality included a welcome to a secluded and shady table under the cottonwoods at the Van Dyke ranch.

Then we learned that the woman who had been so kind to us was your writer, Mary Beal. She showed me her writing den, with its array of books and nicknacks and Indian baskets. Her next botany article was sticking out of the little red typewriter. She writes with such authority, and her articles are spiced with a sense of humor that attracts even a novice in the field of botany.

ALTHEA HILL

Mrs. Hill: More than likely the "bissing" you heard was the buzz of a rattler. When you don't see the reptile it is easy to mistake the buzz for a hiss. Rattlers go for those mine shafts—cats seldom do.—R.H.

The Ojibways Had a Word Also . . .

San Marino, California

Dear Editor:

Page 43 of a recent issue of your magazine carried a question asking the name of the cradleboard used by Indians to carry papooses.

The June, 1944, issue of "Jack and Jill" has a story, "Adventure of Oo-tay-nung" by Richard Morenus, about the Ojibway Indians.

I quote from this story: "A *diki-nog-in* is an Indian cradle, but it is not a cradle with rockers. The baby is placed upright in a *diki-nog-in*. It is really nothing more than a flat board about as long as the baby is tall, with a soft deer-hide flap attached to each side, and, of course, a footrest."

MRS. BARBARA HARRIS

You May Take Your Choice . . .

Nutley, New Jersey

Dear Mr. Henderson:

When your Mr. Eaton inquires (page 43 of the April issue), "Can anyone tell us the name of the cradle board used by Indians to carry papooses . . . no one seems to know the Indian term?" he reveals himself to be a victim of that widespread illusion that there is such a thing as a universal Indian language. That illusion is perhaps fostered by the circumstances that there are a few words as, for example, *tipi* from the Dakota, and wigwam and papoose from the Algonquin, which have been incorporated into the English language. There is apparently no term for the cradle board, from any Indian language, which has been so Anglicised.

Thus to answer Mr. Eaton's inquiry one must ask, "What Indians?" and then proceed to answer somewhat as follows: If he is concerned with the Navajo, the term is a *wee tsal*; for the Havasupai and Hualpai *ba-man ya-ge-ya*; for the Zuñi *wee-hot tsanab t'lem-may*; for the Hopi *ngu-ta*; for the Mojave *who-mad-b-who-vab-vey*; for the Apaches *it-zal*; for the Cheyenne *pab-chist-toots*; for the Nez Perce *te-ka-ash*; for the Santee Dakota *iyokopa*; for the Bannock *uhoop*; the prize for brevity goes without question to the Diegueno, for whom the term is *be*. Should anyone desire several score more terms for cradle board used among the various linguistic groups in the United States I would refer him to the excellent article on the subject by Victor F. Lotrich in The Colorado Magazine, published by the state historical society, Vol. 18, page 81, which source I acknowledge for the above information.

M. SCOTT CARPENTER

Rattlers Have Tough Bellies . . .

Stockton, California

Desert Magazine:

I am writing my opinion of rattlesnakes and hair ropes for your letter column.

I am a true son of the desert. Was born and grew up in Mammoth, Arizona, in the San Pedro valley. And if anyone thinks that place isn't on the edge of the desert, just go there in summertime.

A rattlesnake's belly has to be tough, because I have seen them crawl over hot rocks and cactus thorns of all kinds. When they can stand that I don't think a mere hair rope is going to stop them.

The hair rope yarn is like the story about getting clear, cool water out of the barrel cactus, or devil's head, or whatever you call that species. I have bumped into them in the dark and called them unprintable names. The juice is a foul tasting sticky

substance that leaves an unpleasant taste in your mouth and only increases your craving for water. Why did many of the old-timers on the desert, and an occasional new-timer, die of thirst on the desert if they could get water from this cactus?

There always have been and always will be people who like to believe fantastic tales. I have known many who had slept on the ground for months, and no rattlers ever bothered them, while others seem to have rattlesnake trouble quite often. Of course there is that old proverb, "Birds of a feather flock together." Maybe there are some people that rattlesnakes like to have for bedfellows.

PERCY LEAVERTON

There's Room for Everybody . . .

El Dorado, California

Dear Sirs:

In your April number the "Long Walk of Very Slim Man" was good; also "We Hunted Desert Gems—in a Boat" was very, very good. I would like more of the same.

Now the one thing I do not like is the little spat that has flared up between two of the best magazines in the West, namely, the California Mining Journal and the Desert Magazine. So long as you two boys have the best, seems like you just got to get along.

It did sound a little raw the way J.P. smacked the old Josh tree. But he didn't hurt any of them, any more than an old Desert Rat with a pick and gold pan did in times past. I have yet to see a prospector as careless around his camp as your Sunday tourist. We know there is room in all parts of the Joshua Tree national monument for tourists, mines and prospectors, and if you were to print a notice in your magazine that there would be hundreds of Desert Rats prospecting out there week from Sunday, there would be a record tourist crowd too.

I visited many parts of the monument last summer and found a great deal of scenery that was wonderful, also I found much mineralized country. I think all of us can look a little deeper to find the real cause of the monument being denied to the miner.

E. R. STURGEON

Headin' for the Desert . . .

Sierra Madre, California

Dear Mr. Henderson:

I am tired of living near Los Angeles, so I am going to stake out a 5-acre jackrabbit homestead. Many thanks for the information Desert Magazine has given me.

As soon as possible I am going to build some kind of shack or shelter among the rocks to hang my clothes, flute, musical compositions, some books, and the Desert Magazine. I'll find some jugs in which to carry my water, and candles for light. I'm going to the desert to live.

CEDRIC O'BRYAN

THE DESERT MAGAZINE

DESERT Close-Ups

• John Hilton's next story for DESERT is about an aragonite well in the Colorado desert, which not only was featured as one of Commander Scott's radio "unreal realities" but was enough to make Harry Oliver, the desert's number one liar, declare it was "enough to make a fellow give up prevaricating." This is a hot spring where fossils are formed "while you wait."

• Due to manufacturing difficulties and paper shortage, John Hilton's *Sonora Sketchbook* and Ed Ainsworth's *Eagles Fly West*, which had been scheduled for May publication, will appear later this year, the former some time in the fall, the latter about August 27.

• Harry Vroman, whose story and photos of odd rocks in Joshua Tree national monument appear in this issue, describes himself as a purist of the old f64 school—a school of camera pictorialists who strive for brilliant softness, needle-sharp detail and texture. He and Mrs. Vroman left Los Angeles last year to live in Three Rivers, up Yosemite-way. Harry's adobe studio is called Sierraden, which he is told is Dutch for "the house of beautiful things." But as far as he is concerned it is just what its name implies, since it is close to the High Sierras. His first one man show was held last spring in Visalia municipal auditorium, with 60 prints.

DESERT CALENDAR

- Jun. 29-Jul. 28—Navajo Guild show, Museum of Northern Arizona, Flagstaff. Collection of finest in Navajo weaving and jewelry.
- Jul. 1-4—Fiesta and Devil Dance, Mesquero Apache reservation, N. M.
- Jul. 2-4—Twelfth annual rodeo, Silver City, New Mexico.
- Jul. 4-6—Bit & Spur Club rodeo, Tootie, Utah.
- Jul. 4-6—Frontier Days, Prescott, Ariz.
- Jul. 4-6—McGaffey rodeo, McGaffey, New Mexico.
- Jul. 4-7—Reno rodeo, Reno, Nevada.
- Jul. 4-7—Southwest All-Indian Pow-Wow, Flagstaff, Arizona.
- Jul. 11-13—Ute Stampede, Nephi, Utah.
- Jul. 17-22—Days of '76, including rodeo, Salt Lake City, Utah.
- Jul. 19-24—Pioneer Days, including rodeo, Ogden, Utah.
- Jul. 25-26—Spanish Colonial fiesta, Taos, N. M. Corn Dances, Taos Pueblo.
- Jul. 25-27—Robbers Roost rodeo, Price, Utah.
- Jul. 30-31—American Pioneer Trails Association convention, Santa Fe, New Mexico.



Volume 9

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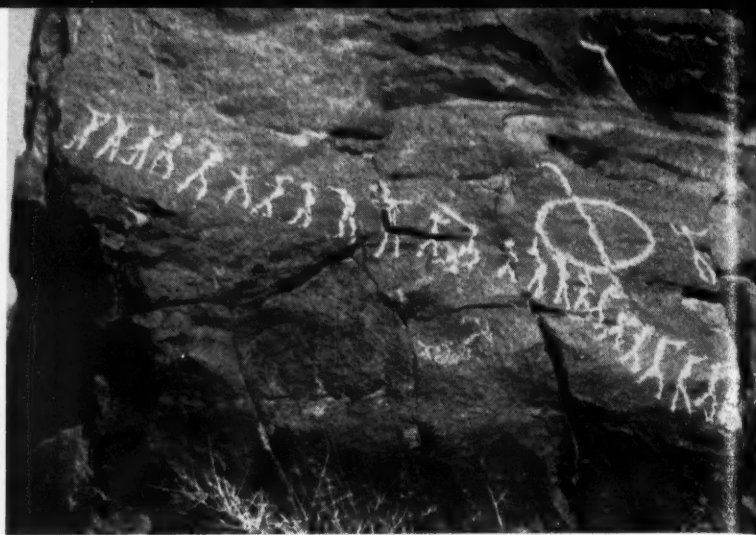
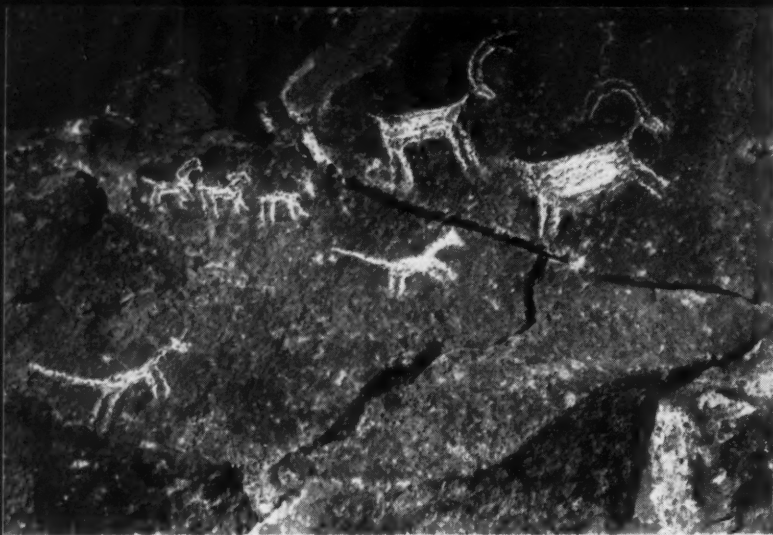
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Petroglyphs in Sand Tank canyon, California. Photos by F. R. Johnston.

WINDOW OF MY EYES

By HELEN L. VOGEL
Mecca, California

This then is the window of my eyes,
The courage of blue mountains reaching up
Freely to the blue of desert skies;
Bigness of the mesquite covered sand
Acknowledging no limits or restraint,
Changing only as the way was planned
When in mind this substance first had birth;
The faith of fragile flowers that water lays
Ready to the thirst of bloom and earth;
That dawn brings sweet hope of warming sun
To bless the desert land with richer gold
Than the ore that through man's sluice has run.

This then is the window of my eyes,
The far horizons of a fuller sight
Reaching to the source of God's supplies.

THE DESERT KNOWS

By H. J. FREYTAG
Meridian, Idaho

The desert knows much—
Beneath its shifting sands
Lies buried memories and
Dreams of a thousand lands.

The desert knows much—
But its secrets it keeps.
For it is not for mortal man
To know, why the desert creeps.

The desert knows much—
Its silent splendor shows
The calm, the beauty and
The power, only the desert knows.

KINGDOM OF PINE

By NELL MURBARGER
Costa Mesa, California

There's a little log shack on the mountain side
Half lost in a world of pine;
There the hills close down when the twilight
falls

And the air has the tang of wine.
The frost grows thick on the window panes
And the storms through the canyons moan;
But my fire leaps bright with a ruddy light—
I'm a king . . . and I reign alone.

My empire is but the squatter's rights
On a thousand miles of pine,
And the little log shack and the things it guards
Are all that are truly mine;
A kerosene lamp, a bunk and a chair,
A bearskin rug on the floor;
A picture or two on the rough log walls,
And memories . . . and nothing more.

The cracks in the walls are chinked with mud,
And the snow sifts in on the floor;
My friends are few—but they're tried and true—
And the latchstring is out at the door.
'Though it isn't a palace with marble halls
And cloisters for pomp and show,
A man doesn't notice the flaws, somehow,
When he's king, in New Mexico . . .

Indian Petroglyphs

By LILLIA M. OLCOTT
Phoenix, Arizona

Who was the man who carved these signs
On this heavily lichened stone?
What did he mean that seemed so clear,
But to us is all unknown?

What were his goals and what his dream
As he toiled near his camp below?
If only we knew what he really meant
In the days so long ago.

Did his Shaman dream that the Thunder Birds
Would practice learning to fly,
Trailing their shadows over this rock?
Could he faintly imagine why?

He wanted to share what he came to know,
For he sensed he was not alone,
So he carved his signs for others to read
On the long enduring stone.

Out in this land of open space
Somehow it seems to be
That even then it had come to men,
The need to be strong and free.

MOODS OF THE DESERT

By CHAS. G. SCHWEITZER
Los Angeles, California

The desert is kind in the spring of the year
When a carpet of crimson and gold may appear
A delight to the soul, and a feast to the eye,
And above all this pageant, a beautiful sky.
Then the desert is kind.

The desert is kind when the winds of the fall
Just rustle the pods of the shrubs large and
small,
And the air is so pure, and the sky is so clear
That I linger and long to live ever here.
Then the desert is kind.

The desert is cruel when the summer's hot blast
Sears the land and the air; and the sky is like
brass;
On the waterless wastes two grey sticks are
crossed
When one heat crazed soul searched for water
and lost.
Then the desert is cruel.

The desert is cruel when the wild howling gale
With its burden of sand blots out sky, hill and
dale.
And I swear at the grit that sifts in through my
door,
And I vow that I'll leave, and return there no
more.
Then the desert is cruel.

But though it be cruel, or though it be kind;
There's a lure to the land that can't be defined
And I feel a great urge to go there again,
For the moods of the desert I do have a yen.

I LOVE THE SOUTHWEST

By LOUIS PATTEN
Tucson, Arizona

I love to ride my horse across the trails
Where the sagebrush and long-spined cacti
grow.

I love to float on throbbing equine sails,
Lasso a hundred miles with one eye's throw.
I love to breathe the desert-scented air,
And feel its soothing warmth upon my face.
I love to see the sharp-cliffed mountains tear
The veil from dusk, assume a purple grace.
I love to watch the setting sun burst out
In arching floods of flame against the sky.
I love the friendly Southwest, there's no doubt,
And want to live here, God! until I die.

COLORADO DESERT

By FRANK W. PEIRSON
Altadena, California

We camped that night on the hard bright sand,
Sand washed by the sun and the waters which
flow,

Cleansed by the sun and the winds which blow
Forever and ever in that stark land;
And this was our camp by the Palo Verde.
Green and gold and purple and grey
Stretches the desert its endless array.
Color and silence, nor ever a word
But silence and color. And far at our feet,
In a bowl of sand, the dead salt sea
Seems like a burnished shield to be
Where the azure sky and its waters meet.
The silence deepens; the colors change.
The mountains around us capped with snow,
The peaks have caught the sunset glow,
And far and near us range on range
Like giant beacons have burst in flames;
And deep below in the amethyst light
The darkening desert awaits the night.

LOS COYOTES

By JEAN CROSSE HANSEN
Anthony, New Mexico

When the wind blows down from the canyon's
chill
And the moon hides under the western hill
Then through the thick dark, clear and high,
Sounds the wild coyote's cry.

Of all sounds there be, I must confess,
For sheer and utter loneliness
Nothing there is, nor low, nor high,
Like the wild coyote's cry.

CREED OF THE DESERT

By JUNE LEMERT PAXTON
Yucca Valley, California

Blinking stars are candles in the sky;
Crescent moon is cradle-like, and high.
Dainty robes, the fleecy clouds imply,
And desert breeze is baby's lullaby.

Some visitors go to the old Calico mining district on the Mojave desert of California to hunt rock specimens. Others go to enjoy the unusual museum which Larry and Mrs. Coke have at the Ghost mining town of Calico. Still others who know nothing about minerals go there to marvel at the spectacular coloring of the hills and rocks—the coloring that gave the camp its name. Jerry Laudermilk went there to see what kind of pigment Mother Nature used in producing that strange array of color. And here is the story of what Jerry learned about those calico rocks.

How Nature Colored the Hills at Calico

By JERRY LAUDERMILK
Map drawn by the Author

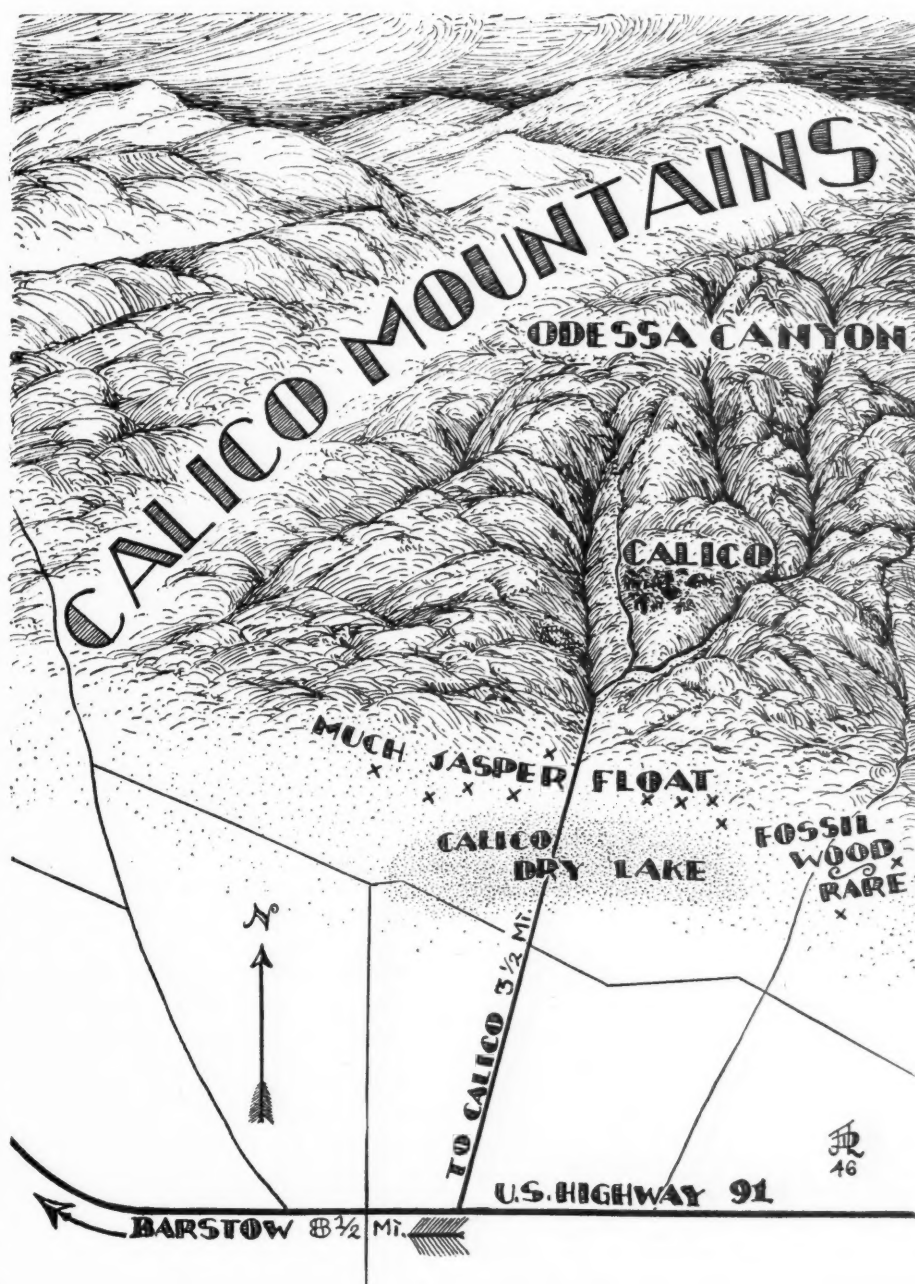
CALICO town lies about ten miles northeast of Barstow, California, on the far side of Calico dry lake. The sunburnt shacks of the old mining camp straggle over barren hills and down the sides of canyons where a wild assortment of vivid hues, the result of mineral pigment in the soil itself, calls up memories of drygoods counters in half-forgotten trading posts. In all probability these folded strata of gaudy rock suggested a name for the place which is an easy-to-reach section of a great outdoor museum packed with relics of a geological revolution that occurred ages ago. In those prehistoric days the Calico region was practically a seaside resort on the western edge of an ancient land-mass geologists have named Mohavia, since some of the most typical aspects of the formation are found near the central part of present day Mojave desert.

For countless ages it had been fairly serene among the wooded hills and plains of old Mohavia where roamed herds of the ancient three-toed horse and early American camel. Except for such minor disturbances as cloudbursts and seasons of drought all was peace. Then forces deep under ground began to stir and faults or cracks formed in the stony crust of the earth so that the land broke into huge blocks and ridges that rose and sunk and wrinkled the landscape like the skin of a dry prune.

Rivers that had drained the uplands for millions of years and carried loads of silt and rocks into the Pacific were now stopped by the rising mountain ranges and enormous gravel beds accumulated in the basins made by the settling fault blocks. These basins were something like the dry lakes of the desert today. Now rainwash

and landslide contributed their quotas of rock samples from the local mountain sides to the growing beds of sediment, and stratum was piled upon stratum so that at last a formation thousands of feet thick in places resulted. These strata contain rock fragments of all sizes from massive boulders to fine silt.

This period of sculpture by water and landslide was followed by a time of tremendous volcanic action. Dust and ash from many a crater now long obliterated settled upon the older gravel beds and buried everything — whole forests of palms, yuccas, locusts and other vegetation were engulfed just as they stood. Sealed away under thick layers of tuff the plants petrified and now show up again as the familiar fossils of the Barstow beds and the





The author trims a rock. Some of the jasper near Calico requires just a touch or two of the hammer to transform the rock into a specimen.

pieces of petrified wood found among the Calico mountains.

The explosive phase ended at last and great cracks opened in the earth from which torrents of lava spread over the landscape like icing on a cake. The cake itself was a jumble of boulders, gravel, silt, clay and hot lava which was kneaded by Mother Nature into a fantastic conglomeration of bent and folded strata cut in all directions by sills, dikes and plugs of volcanic rock. The geologic hash left over from this violent reshuffling ended as the geological formation called the Rosamond Series which, from the standpoint of varie-

ty, is one of the most astonishing displays of gorgeously colored rocks and clays in North America.

All kinds and conditions of rock went to make the Rosamond. Rocks formed from hardened volcanic ash, mud of lurid colors, sandstone, breccias, conglomerates, etc., have been crushed by sliding fault walls, then weathered, bleached, corroded, chemically cooked and parboiled by superheated water under pressure so that in many cases their exact identification is a headache for even a first class geological detective.

Where weather has carved the strata into the complex assortment of hills and can-

yons that make up the Calico section of the Rosamond, the ground shows all shades of yellow, brown, orange, red, green and even blue and lavender. A collection of these clays in specimen vials looks like samples of pigment from a paint store.

Curiously colored rocks are to be found by thousands as loose boulders, cobbles and pebbles on the alluvial fans that slope away toward Calico dry lake where they wait to be discovered by those more advanced initiates in the mysteries of rock-houndry who have learned that there is fascination not only in color and luster, but also in chemical makeup.

Some of the rocks and pebbles from the strata at Calico clearly have been carried in from distant sources. These are such specimens as green epidote and rounded hunks of brown and red quartzite which probably are cobbles from some ancient beach. Many have been so extensively pulverized, transported, cemented with opal and chalcedony, re-pulverized and again cemented that the best identification that can be made is to call them sandstones, arkoses, hardened muds and slimes and claystones. They include shades of bright green, bluish green, blue the exact color of old blue overalls, as well as warm shades of yellows and reds.

One class of rocks found on bajadas in great variety are the so-called non-crystalline forms of quartz. These are so plentiful that even a lazy collector soon can select a complete series showing how rocks of this type grade imperceptibly into one another. Colorless or skim-milk blue chalcedony grades into common opal, chert and agate. Dense white flint that looks like paraffin, grades into varieties of jasper as the amount of coloring material increases in the rock. The jaspers show all shades from cream color to orange, vermilion, cherry red, Indian red and even purple and black.

This rock differs from most other silica rocks by having some proportion of clay-like coloring material that acts as a pigment but is not chemically combined with the matrix material as is so common with other rocks and minerals such as garnets and tourmaline. The pigment in jasper acts in the same way that suspended mud in water would make it freeze into brown ice. Sometimes the jasper specimens are flint-like with only mottled patches of the pigment in a ground mass of white chert. But sometimes the other extreme occurs when the rocks resemble hunks of clay infiltrated with silica. Sometimes specimens seem to be overloaded with pigment which never mixed with the ground mass.

In one specimen of cherry colored jasper I collected at Calico there were a few small pockets lined with a red powder. This brilliant pigment could be swept out with a brush and when I made an analysis,

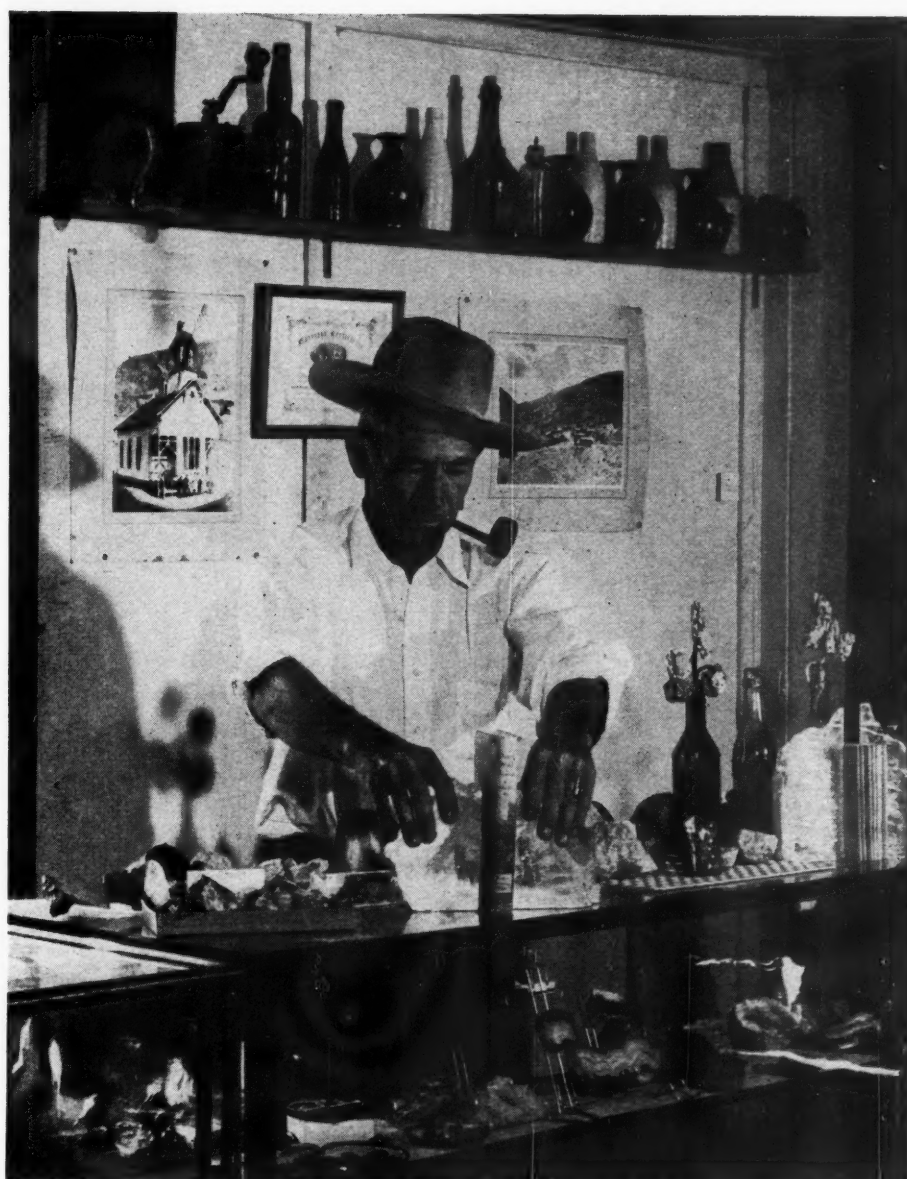
three quarters of the powder was found to be very fine volcanic dust while the rest was mainly red hematite or iron oxide. Analysis of the solid part of the rock itself showed it to consist essentially of pure silica colored by about ten per cent of this same red iron oxide. The natural question here is: "How did the jasper happen to be formed in the first place, and what causes the other colors?"

To account for the silica is not very difficult since geochemists know much more about the origin of silica than they do about the origin of hematite. In the first place, water dissolved the silica out of the older volcanic rocks just as it would the sugar from a cake of peanut brittle.

Pure quartz is very resistant to the action of most solvents but it does go into chemical combination with most of the metallic elements and makes up the long list of chemical compounds called silicate minerals. After silica has once joined with another element it sometimes is easily dissolved out of its metallic partnership by the action of hot alkaline water, the alkali usually being soda. The silica that the alkali steals from the silicate minerals is then carried away as sodium silicate—first cousin to ordinary "water-glass" egg preserver.

Volcanic rocks are composed of different mixtures of silicate minerals. Basalt for example is mostly feldspar, a complex silicate of lime, soda and aluminum with another mineral, pyroxene, another silicate of lime, iron and magnesium. Now, when basalt or a volcanic ash made of powdered basalt is corroded by hot alkaline water most of the silica will be carried away in solution and the metallic constituents largely left behind in various combinations—the iron frequently remaining as red hematite.

The dissolved silica can be thrown out of solution by any of several reactions: contact with dilute acid will do it; even the trace of carbonic acid in the air is sometimes enough; so will release of pressure as when hot water from deep springs reaches the surface. At any rate, when water containing silica has to give it up in a hurry it usually forms deposits of opal, chalcedony, flint or chert. In this form it sometimes takes the shape of the potato-shaped flint nodules found in chalk or in decomposed volcanic ash as in some of the Yermo deposits. Ordinarily the silica is deposited in seams, cracks or cavities. When the surrounding wall rock weathers away, the chert, chalcedony or jasper will be left as irregular slabs or chunks which the usual mechanical forces of weathering finally break into smaller pieces such as the specimens found on the fans at Calico. Next



Larry Coke is no less a landmark at Calico than the colorful hills back of the old ghost town. Photo by Fred H. Ragsdale.

let's look into the origin of the other constituent, the pigment.

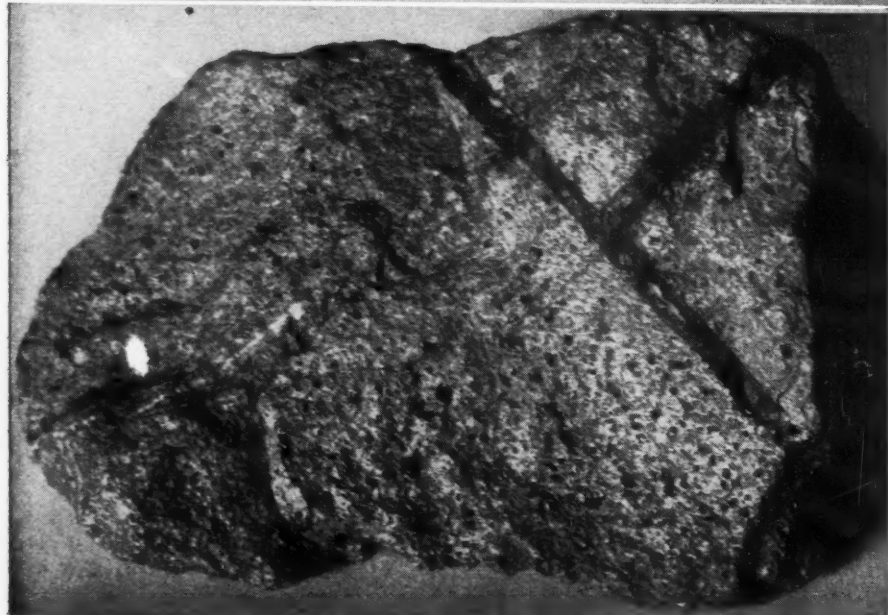
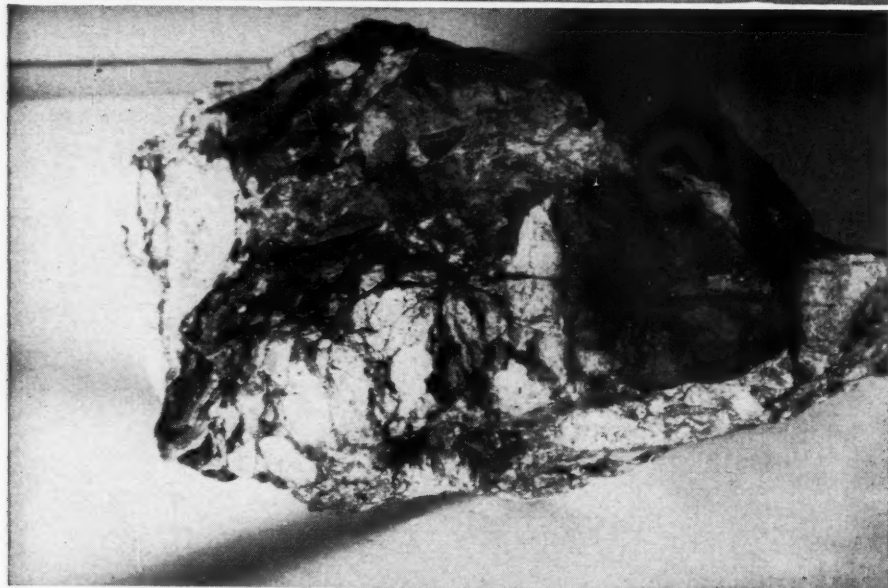
Remember, I said that when basalt is altered by the action of hot alkaline water much iron oxide remains behind. Sometimes there is so much of the red oxide that the basalt turns deep red like the Indian red lava to be seen at the bottom of Pisgah crater, 30 miles east of Barstow. Red lava like this may crumble to a red or brown soil and actually finish by leaving its iron behind as a deposit of practically pure red hematite.

Tests showed that the red pigment in a typical sample of Calico jasper consisted of ferric oxide in the form of powdery hematite or red ocher. This was the source of all the red shades from pink to reddish purple. But ferric oxide in other combinations

went to make another set of warm colors—the yellows, oranges and browns.

There is another series of iron oxides, the ferrous oxides, which generally produce some shade of green such as bottle-green or greenish black and some combination of ferrous oxide which awaits to be explained forms blue compounds. The blue mudstone I mentioned at the beginning of this story looks as if it might contain copper but tests showed that the only pigment present was iron. Combinations of the two types of iron oxide in the same rock produce such unusual colors as bronze, yellowish green and olive.

Now about those yellow colors I mentioned. There is much yellow jasper at Calico and when a sample is heated it cools to bright red so that by careful handling



you can artificially color parts of a yellow specimen. If you heat a small piece of yellow jasper in a test tube you will notice that a good deal of water collects in the cold part of the tube. This gives conclusive evidence as to the cause of the yellow color—scattered particles of yellow iron hydroxide or the very common mineral limonite throughout the colorless chert ground mass of the rock. Limonite is familiar to everybody in its commonest form as ordinary iron rust.

Events at Calico which resulted in the formation of jasper probably were as follows:

Since the jasper fills cracks and seams and acts as a cement in some of the breccias and conglomerates made up of lava fragments, it was, of course deposited after the lava had had a chance to cool and become cracked and broken up from shrinkage and other causes. But the infiltration of silica-loaded water probably went on for only a short time in a geological sense since there are no deposits of silicious sinter in the Calico locality. But hot springs like those at Coso hot springs probably were the source of the alkaline water. Such springs commonly are brilliantly colored from iron sediments held in suspension. The iron compounds usually are red, yellow or brown but sometimes are blue or green. When the silica begins to be deposited from spring water containing pigment the coloring matter is carried down with it in about the same way that egg white carries down the grounds from boiled coffee. As the gelatinous silica with its pigment lost more and more of its water it finally hardened into this highly colored silica rock—jasper.

So when some rockhound admires the fantastically bent and colored strata of the Rosamond formation in the hills north of Barstow, he also is looking at evidence of the violent brand of chemistry that was necessary to produce the jaspers and multitudes of other rocks that make up the inexhaustible collector's paradise on the alluvial fans around Calico.

Above—Typical jasper rocks from Calico. Top specimen is bright red in a matrix of green dacite. Left side specimen is white, opaline silica with stringers of bright red jasper. Center specimen is deep red, and the one on the right is mottled yellow and ivory.

Center—Large block of white chert with fillings and inclusions of bright red jasper.

Below—Block of green dacite with bright red jasper in seams in right side of specimen. Thin lines in the left side are intrusions of white opal.

At his northern Arizona home in the canyon which later was given his name, Tom Keam entertained all comers on an equal footing — the scientific explorer and the wandering Indian alike shared his hospitality. Keam at various times was sailor, soldier, interpreter, Indian agent and trader—but always he was a high type of English gentleman, and among the Hopi Indians it is legend that he was their friend.

Tom Keam, Friend of the Moqui

By RICHARD VAN VALKENBURGH

JUST 73 years ago two buckskin-clad men fought desperately for their lives in a willow thicket beside the churning yellow waters of the San Juan river a few miles northwest of present Shiprock, New Mexico. This was their penalty for prospecting in the domain of the fierce Mogache Ute!

The previous evening Tom Keam had found Ute sign. Long experienced in Indian ways for he had fought the Ute and Apache 10 years under the leadership of Kit Carson, he warned the Navajo agent and leader of the party, "Miller, we must leave this low ground at once. The Ute will attack in the morning."

But Miller, new in the Indian country, had laughed and rolled up in his blanket. Staying awake Tom Keam and the former Navajo slave, Jesús Arviso, got ready for the attack which they knew was coming just before the blue of dawn.

The feathered warriors came in whooping and shooting at break of day. After their all night vigil Tom and Jesús were ready. The deadly fire of their 50-caliber breech loaders drove the attackers away. When the smoke cleared they looked for Agent Miller. He lay dead under his blanket with an arrow in his head.

Hastily burying Miller in a shallow grave Tom and Jesús made a run for it—they literally ran, for the Utes had taken their horses. In later years while telling the story to his old companion of military days, Anson C. Damon of Fort Defiance, Keam reminisced:



Tom Keam—always a gentleman.

"How Jesús and I got out of the river bottom and dodged those feathered devils for over 100 miles of desert and mountains between the San Juan and Fort Defiance was a miracle. By rights our scalps should be hanging on the lodge pole of some Ute teepee right now."

Tom Keam was not a veteran of the frontier. He was born in Kenwyn, Cornwall county, England. The greater part of his youth had been spent before the mast of a sailing vessel plying between England and Australia.

We have no details as to how Keam's ship reached San Francisco, but we do know that he arrived there in 1861. What occupied him during the following months in northern California is a blank. Nevertheless, on January 22, 1862, he enlisted in Captain Shirland's Company C of the 1st California Cavalry.

Five months later he was having his first dusty taste of Arizona's desert as he sweat-

ed across the Gila route with Colonel James Carlton's California column. After participating in a number of minor engagements with the confederates, Keam was stationed at Fort West in the vicinity of present Silver City, New Mexico.

After a period of relative quiet the Chiricahua Apache in the region were aroused to bloody fury by the murder of their chieftain, Magnus Colorado, by the troops of General West. With his command Keam took the trail of the Apache and participated in skirmishes as far west as Fort Goodwin near present Fort Thomas, Arizona.

In 1864 Keam had his first experience with the people he was to know so well in the coming years. Being transferred to Fort Sumner in east central New Mexico he was an eye witness to the Navajo Round-up and internment on this reserve by Colonel Christopher Carson and his New Mexico Volunteers.

By this time a seasoned Indian fighter, the Cornishman re-enlisted at the end of the Civil War in Company E of the 1st New Mexico Cavalry under the command of Colonel Carson. As a 2nd lieutenant he served in a number of campaigns against the Mescalero Apache. Later he became post adjutant at Fort Stanton, west of present Roswell, New Mexico.

Upon his discharge from the army in 1866 he was granted a license to trade with the Capote Ute in the vicinity of present Dulce, New Mexico. Owing to the continual unrest of these fierce tribesmen the trading venture was not a success and 1869 found Keam at Fort Defiance, Arizona, as a clerk and interpreter for the Navajo.

At Fort Defiance he was welcomed by his old comrade, Anson C. Damon, a native of Maine. Formerly post sutler at Fort Sumner, Damon had married a Navajo girl and upon the Navajo return to their homeland in 1868 he had returned with them.

Following Damon's example, Keam also married a Navajo girl, *Astzan Lapai*, Grey Woman. This union proved a serious obstacle to the Cornishman's promising career in the federal service in later years. Victorian minded groups then running the Indian department bitterly opposed Indian-white marriages.

In 1940 Roger Davis, a Navajo missionary from Indian Wells, Arizona, brought an aged Navajo into my office at Fort Defiance. He was very light complexioned and his features resembled a portrait that I had seen somewhere. While I was try-

ing to place him Roger spoke up, "This is Tomas Begay, the son of Tom Keam!"

In the visit that followed Tomas Begay brought to light parts of Keam's personal life which up to this time were little known.

"My mother, Grey Woman, was born in the Moqui Butte country about 1855. She married Tomas the year after the Navajo returned from captivity. I was born in 1870 at Fort Defiance. My younger brother, *Hastin Lapai*, was born in the following year."

Following Keam's escape from the Ute near Shiprock he was appointed special agent to replace the deceased Miller. The job did not last very long. For when a new political appointee, W. F. M. Army, reached Fort Defiance in 1873 he immediately discharged Keam with the sanctioning accusation, "living with a Navajo squaw, and thereby exercising undue influence on the tribe."

Forming a partnership with Damon in the livestock business Keam stayed on at Fort Defiance. In 1875 he was naturalized as an American citizen. And then in the words of his son Tomas Begay:

"My father received a letter from his old mother in England. He was gone over a year. My mother thought he was not coming back. So she moved up on Black Mountain and married another man. This was *Hastin Shida'i*, Mister Uncle."

When Keam returned from Cornwall the agent's position was open at Fort Defiance. But even with the support of Dr. John Manual, the pioneer missionary to

the Navajo, as well as other influential citizens he did not receive the appointment. The board of Indian Commissioners had not forgotten his marriage to Grey Woman.

Being offered a job by old army friends Keam moved to Fort Wingate. There he served as interpreter and superintendent for Apache prisoners of war. Later he went to Ojo Caliente where he worked in the same capacity with Victorio and his Warm Springs Apache.

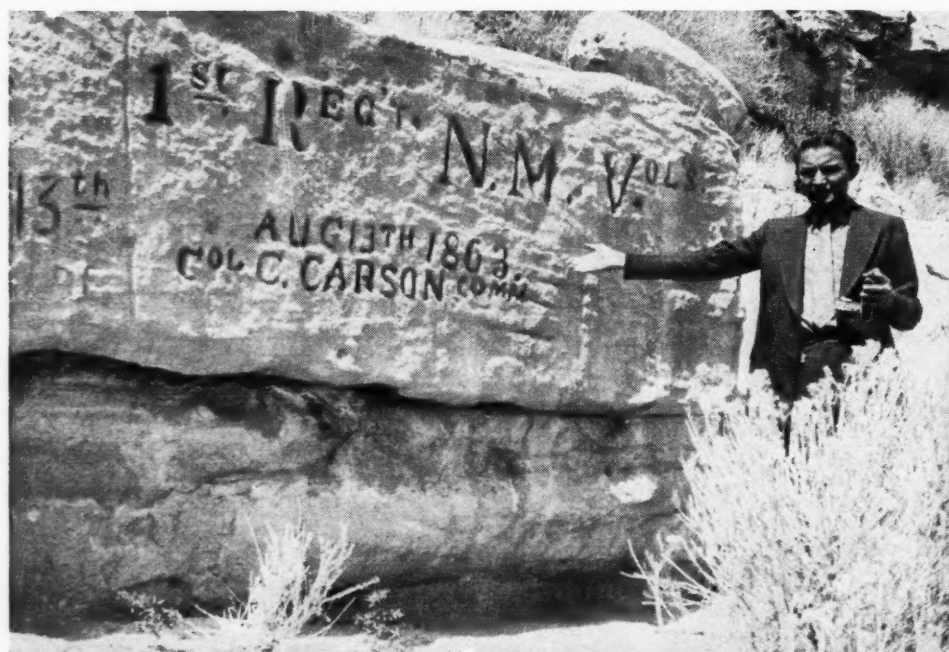
Returning to Fort Defiance in 1879 Keam went on his own and began his long career as Indian trader. With William (Old Bill) Leonard as clerk he opened a small post, the remains of which still stand on the flat about one mile south of Fort Defiance.

At the time there were few traders to the Navajo. In addition to Keam there were the late Don Lorenzo Hubbell at Ganado, Barney Williams, I. L. Bennett and Charley Davidson a few miles up the Pueblo Colorado from Hubbells, and Stover and Company at Fort Wingate.

According to old Navajo, trading in the '70's was very simple compared with today. Stock was the medium of exchange for flour, coffee, canned tomatoes, peaches, and sack and twist tobacco. Cloth was calico and a white duck for men's pants. Vests were popular as were the flat brimmed and low crowned hats seen in pictures of that period.

It was not until Lorenzo Hubbell and C. N. Cotton began developing national markets that Navajo blankets and silver

In Keams canyon a half mile below Tom's old trading post is this inscription left by Kit Carson's Volunteers during the Navajo Round-up. One of the descendants of that episode in Navajo history is Tom Bitany, shown here, who served as a lieutenant in the army in World War II. Right—Tom Keam's grave in the parish cemetery at Kenwyn, Cornwall.





This is all that remains of Tom Keam's old trading post in Keams canyon, Arizona. Established in 1882. Milton Snow photo.

became important mediums in Navajo exchange. Previous to 1880 the only outlet had been the New Mexicans on the Rio Grande and the Mormons north of the Colorado river.

After continual controversy with Galen Eastman, the Navajo agent whom the Indians still call "Tarantula," Keam sold his Fort Defiance post. Moving west 80 miles he opened a new store at *Pongsikia*, Rounded canyon, which was an old Hopi farming area and the traditional property of the Firewood Clan of Walpi. The Hopi at that time were called Moqui.

While still under the jurisdiction of the Navajo agent who administered the business of the Hopi, Keam with his combined Hopi and Navajo trade prospered. And after a few years he began to find time to enjoy the things which previously had been impossible in his unsettled life on the frontier.

Soon after the post was established at *Pongsikia* Alexander McGreagor Stephen, a brilliant but eccentric Scotch ethnologist arrived in the lonely canyon. Eager for companionship the Cornishman welcomed the Scotchman and practically supported him until the time of his death 12 years later.

Keam preserved Stephen's Hopi and Navajo manuscripts with jealous care. And as a result we now have Stephen's works in the publications of the Bureau of Ameri-

can Ethnology and in his Hopi Journal published some years ago by Columbia University Press.

We have one glimpse of Keam's personal life during this period, as told by his son:

"When I was about 10 years old I began to know my father. Billy (Grey Man) and I would go over and visit him. He would welcome us and say, 'Stay with me boys. I'll take care of you.' Then he'd give us grub and clothing. He recognized us as his children."

Possibly encouraged by Stephen as well as Victor Mindeleff, archeologist of Smithsonian institution, Keam did considerable archeology work during the 1880's. In his untrained fashion he broke trail for the great works done in the Hopi country in the next decade by Dr. J. Walter Fewkes of the Bureau of American Ethnology.

In 1886 the Indian department purchased the site of Keam's post. The trader moved down canyon to the site of the present Halderman trading post. We have an excellent description of the life at Keam's post from Dr. Frederick W. Hodge, present director of the Southwest museum, who was with Dr. Fewkes during the excavations of the Hopi town of Sitkyatki in 1894:

"Mention of Keam brings memories of the visits Dr. Fewkes and I made during the excavations. Keam was always the gen-

tleman. He always had the best in magazines, including the Ladies Home Journal. And on his table he had potatoes for dinner—80 miles from the nearest town, Holbrook, Arizona."

In 1899 the first Hopi agency was established at Keam's old post. This was up canyon about a half mile from the present agency and school buildings. Keam welcomed the new agent Charles E. Burton. At first the Indian trader and the agent got along. In a letter to the Indian Office Burton wrote:

"When the time came to fill the school Mr. Keam took his own buggy and drove me around the villages, using his acquaintance of 17 years and great influence to fill the school."

Not many months later Keam and Burton fell out over the agent's insistence that Hopi children be forcibly taken from their native mesas and sent away to schools at Santa Fe, New Mexico, and Riverside, California. This was contrary to Keam's ideas. He protested to influential friends in Washington.

In reprisal Burton made continual complaints against Keam, "The trader is gambling with the Indians; his Navajo trade is making the Hopi hard to handle; the post is open on Sundays; and during the past 30 years Keam has consorted with a Navajo squaw."

Affairs reached such a state that in 1900

Keam went to Washington to defend himself. Charles Lummis, the author, and other influential people interested in Indian affairs sided with Keam and publicly condemned Burton's Hopi policies. Finally, after investigation, the agent's charges against Keam were disproved by Inspector McLaughlin of the Indian department.

In justice to Burton, records show that he was following instructions from the Indian Office. Nevertheless, the damage was done. Sick and disheartened after the struggle Keam stayed very little in the canyon which by that time had been named after him. And on May 16, 1903, he sold his holdings to Lorenzo Hubbell of Ganado.

In parting he told his sons:

"You are not going to see me anymore. I'm sick and this climate does not agree with me. I'm going back to my old home in Cornwall to die."

While Keam did return to Philadelphia for a short visit he never again saw the canyon in which he spent the prosperous years of his life. He died at Truro, Cornwall, two years after he left the Hopi country. Buried in the parish church yard at Kenwyn his epitaph reads:

THOMAS VARKER KEAM

Late Lieutenant of the United States Army and of Keams Canyon, Arizona. November 30, 1904, 62 years.

Opinions of Indians and whites who knew this colorful Cornishman are varied. Some say he was tight-fisted and exploited the Indians. Others, particularly the Hopi, say, "Tomas was our friend." Nevertheless, the beautiful canyon in the land of the people who called him "friend" perpetuates the name of Thomas Varker Keam, seaman, soldier and Indian trader.

TRUE OR FALSE

It is too hot these days to be out prowling around the desert—and here is an effective way to improve your knowledge of the desert country without going there. These questions have to do with the geography, history, mineralogy, botany, Indians and lore of the Southwest. Ten correct answers is an average score. Fifteen qualifies you as an expert, and any score above that number is exceptional. Answers are on page 30.

- 1—The water of the Great Salt lake has a higher salt content than that of the Pacific ocean. True..... False.....
- 2—The highest mountain in the United States is visible from the California desert. True..... False.....
- 3—Albuquerque is the state capital of New Mexico. True..... False.....
- 4—Geronimo was a war chief of the Navajo tribe. True..... False.....
- 5—Steam and gases still rise from vents in Nevada's Valley of Fire. True..... False.....
- 6—According to the conclusions of geologists, the Gulf of California once occupied the inland basin where the Salton sea is now located. True..... False.....
- 7—Lake Mead spreads over parts of three states—California, Nevada and Arizona. True..... False.....
- 8—It is a tribal custom among the Navajo to burn the hogan in which a member of the tribe dies. True..... False.....
- 9—General Lew Wallace is believed to have completed the book *Ben Hur* while serving as governor of New Mexico in 1880. True..... False.....
- 10—Sunset crater in Arizona is no longer an active volcano. True..... False.....
- 11—Rattlesnakes normally have four fangs, two in each jaw. True..... False.....
- 12—Desert mistletoe is conspicuous for the beautiful coloring of its leaves. True..... False.....
- 13—Chrysocolla usually comes from iron mines. True..... False.....
- 14—The San Juan river is a tributary of the Colorado. True..... False.....
- 15—Date palms grew wild on the Southern California desert before the white man discovered America. True..... False.....
- 16—Dipodomys is the name of a desert rodent. True..... False.....
- 17—The Devil's Golf Course was built by Death Valley Scotty. True..... False.....
- 18—The only poisonous lizard in the Southwest is the Gila Monster. True..... False.....
- 19—The Mormon battalion was formed to protect the Mormons from religious persecution. True..... False.....
- 20—There are 36 sections of land in a township. True..... False.....

MAY PHOTO CONTEST WINNERS . . .

Fred H. Ragsdale of Los Angeles won Desert Magazine's photographic cover contest which closed May 20 with his picture "Joshua Tree, Mojave Desert." Second place winner was Tad Nichols of Tucson with a print titled "Saguaro in Blossom."

Other pictures purchased from contestants for future use on Desert's covers were the following:

"Hunter's Dance," by Pat Bailey of Denver.

"Snow-capped Joshuas," by C. H. Lord of Los Angeles.

"Navajo Mother and Child" and "The Double Arch," by Hubert A. Lowman of Southgate, California.

There were 39 contestants and 103 entries in this year's cover contest. Joshua tree was the most popular subject with 23 prints.

Desert Magazine staff was pleased with the interest shown in this contest, but disappointed in the quality of many of the prints. It was necessary to eliminate several fine prints because the photographer failed to allow for the Desert Magazine masthead which must be printed across the top of the page. Since this was a cover contest, it was essential that allowance be made for the lettering in the composition of the picture.

One Nevada photographer had some very fine prints ruled out because they were too coarse grained. Fine grain is important in reproducing glossy prints in halftone. Other photographers were careless with their backgrounds, some lacked sharp focus. In a few instances pictures were disqualified for failure to comply with the rules as to 9x12 minimum size or glossy paper.

Most of the disqualifying factors are included in the following list: Imperfect focus or too short focal range, coarse grain, dirty developer, poor composition, inadequate lighting and disfiguring backgrounds.

Winning pictures and others selected for purchase will appear on future covers of Desert Magazine.

Colorado River Flood Below Normal . . .

Due to light snowfall in the Rocky mountains during the past winter, the May and June flood run-off in the Colorado river has been the lowest in many years. Flow in the San Juan and Dolores tributaries is less than one-third of normal. While Lake Mead will be lower than normal this season, there will be ample water for the irrigation projects in Palo Verde, Yuma and Imperial valley. Some curtailment in power generation at Boulder dam may be necessary later.



Arles Adams (right) and the author caught this shot of themselves with a delayed action camera just before sunrise.

Palm Hunters in the Inkopah Wastelands

In their quest for the native palm oases of the Southern California desert, Arles Adams and Randall Henderson spent two days living out of their packsacks in a region so arid it is shunned even by the desert wildlife—all except the canyon wrens which have adopted it as sort of a sanctuary for their species. Here is the story of a palm spring recorded by the international boundary surveyors 50 years ago, and seldom visited by humans since that day.

By RANDALL HENDERSON

HERBERT M. Rouse, for many years engineer for the Harry Chandler ranch in the delta of the Colorado river in Lower California, first told me about Boundary palm oasis.

In his office in Mexicali one day he brought out an old map made by the engineers who surveyed the international boundary—I believe it was the survey made under the direction of Colonel J. W. Barlow in 1892-96.

Faintly marked in the mountainous terrain southwest of Coyote wells, about a mile north of the Mexico-California border was a waterhole bearing the legend "Palm spring." Herbert had never visited this spot, nor could I find one among the

old-timers in this area who knew anything about the spring, or how to reach it.

It is located in one of the most inaccessible regions of the Southern California desert—in the heart of a triangular area bounded by Highway 80 on the north and west, by the international boundary on the south, and by the desert plain on the east. The apexes of the triangle are Coyote wells, Jacumba, and Pinto mountain where the Mexican petrified forest is located. Here is an area of about 60 square miles which is virtually a blank on all the maps I have seen.

So, if my log-book of the palm oases in Southern California was to be complete, I must find that palm spring. Over a period

of three years, I made four trips into the region before I located it. I explored every canyon draining the desert slope of the Inkopah mountains, and later learned that on one excursion I had passed within a quarter of a mile of the palms without seeing them.

Boundary palms are not an imposing oasis. There are 27 of them, extending along the floor of an obscure canyon a distance of less than a mile. But I suspected there were more palms in that little-known corner of the Colorado desert, and it was to verify this hunch that Arles Adams and I spent two days on a backpack trip into the region late in March this year.

My previous approach to the area had been from the floor of the desert, from Coyote wells over a little-used road into a well-hidden basin known as Davies valley. In order to cover a wider area with a minimum of effort, Arles and I planned to start from a point high up in the Inkopah range and work down to the desert, covering as many of the canyons as could be done in two days.

Accordingly, Don Stephens of Coyote wells, ferried us to a point on Highway 80 just below Mountain springs, and then returned with the car to Coyote wells where we were scheduled to arrive at the end of the second day. We kept the schedule—after 29 miles of up-and-down hiking in a region so arid as to be without even game trails.

However, this forgotten triangle has not always been as devoid of human habitation as it is today. We found abundant evidence



The glyphs in Boundary palm canyon are exceptionally well-preserved.

of prehistoric Indians—mortars, smoke-blackened caves, petroglyphs, sherds, and an occasional segment of old Indian trail. The ancient redmen had known this area well—probably at a period when there was more water than is found here today.

We traveled light. Our bedrolls, food for two days, and a quart canteen of water each added up to 20-pound packs. We were fortunate in finding water in pools in the rocks—a supply which will vanish later in the season.

Starting at the point where Myers creek (Inkopah gorge) leaves the highway at a tangent toward the south, we followed the creek bed approximately a mile. There was water in the arroyo, and we passed eight young palms—trees which have sprouted here in very recent years. We took the first main tributary to the left and a half mile upstream came to Mortero spring to an old Indian cave where there is one huge boulder with nine grinding holes in its top surface. In this tributary there are 11 palms, most of them at the site of the old Indian camp. The ground here was sprinkled with sherds, and I have been told that pot-hunters have found a number of ollas in this vicinity.

At the cave we took a tributary to the right, in a southerly direction. There was a little cove of five palms, and then a 30-foot dry waterfall which was easily detoured. Above the fall there was an occasional palm along the fairly flat creekbed and in another mile we came to Juniper spring. This is a picturesque little oasis at



the base of the high backbone of the range. There were 17 palms in this group, including two or three veterans perhaps 100 years old. These trees were huddled together in a lovely picture that will remain in my mind as one of the highlights of the trip. We found no evidence of previous visitors, but I am sure there are mortars in the rocks for the Indians would not have passed up such a delightful spring.

From Juniper spring we turned easterly, climbing gradually toward a pass two miles away. On that pass we reached the high point of our trip—elevation 2800 feet. Our general course was toward the southeast, and without maps or trails we simply were following what appeared to be the easiest routes.

From the pass we dropped down a gentle slope to Mesquite spring in a sunny little valley where the most conspicuous landmark is a great white granite boulder with a single grinding hole in the top surface. The water supply was very limited, and the spring probably dries up during the summer months. We ate our lunch of sardines and crackers by the old Indian grinding mill.

We were somewhere in the heart of the triangle but with no familiar landmarks on the horizon we could only follow a general sense of direction. Arles was inclined to bear toward the north, while I thought we should keep to the south. We compromised by following a sandy arroyo

This group of morteros were found near the Indian cave at Mortero spring.

northeasterly for a half mile, passing three young palms along the way but no water on the surface, and then turning south along a tributary that came in from the direction of Mexico. We passed over a little knoll where the decomposed granite was littered with calcite crystals. I have no doubt that prospecting here would disclose them in place. But our water supply was low, and we had neither the time nor the tools for prospecting.

There were some colorful natural gardens of Indian paintbrush in this area, and an occasional lupine in flower. It was a clean, exhilarating desert plateau, luxuriant with the shrubs of the upper Sonoran zone—agave, yucca, jojoba, wild apricot, ephedra and ocotillo.

We found ourselves boxed in by ridges, and Arles favored the one on the east. We knew the general direction of our goal—but beyond that fact we were lost. We knew not the shortest way to get there. It was a steep climb up a 45-degree chute to the top of the ridge. Below us toward the desert were canyon watercourses go-

ing north and south. Arles' hunch was to take the one to the north. And he was right—we discovered 24 hours later. But I prevailed upon him to bear off toward Mexico on the south. We dropped down over a 500-foot precipitous wall of grey and white marble—a beautiful formation it was, but we were too busy clinging to the rocks and finding footholds to think much about its coloring at the time. On an almost vertical descent a 20-pound pack swaying with each movement calls for rather critical balancing at times.

Our water supply was short and the sun was getting low. Our first interest now was to find water where we could make camp for the night. But we were in an ascending canyon, and there was another ridge to cross—this one at 2650 elevation. At the top of the ridge the desert floor spread out far below us—and we dropped down into the canyon directly below, hoping it would lead us to the spring at Boundary palm oasis.

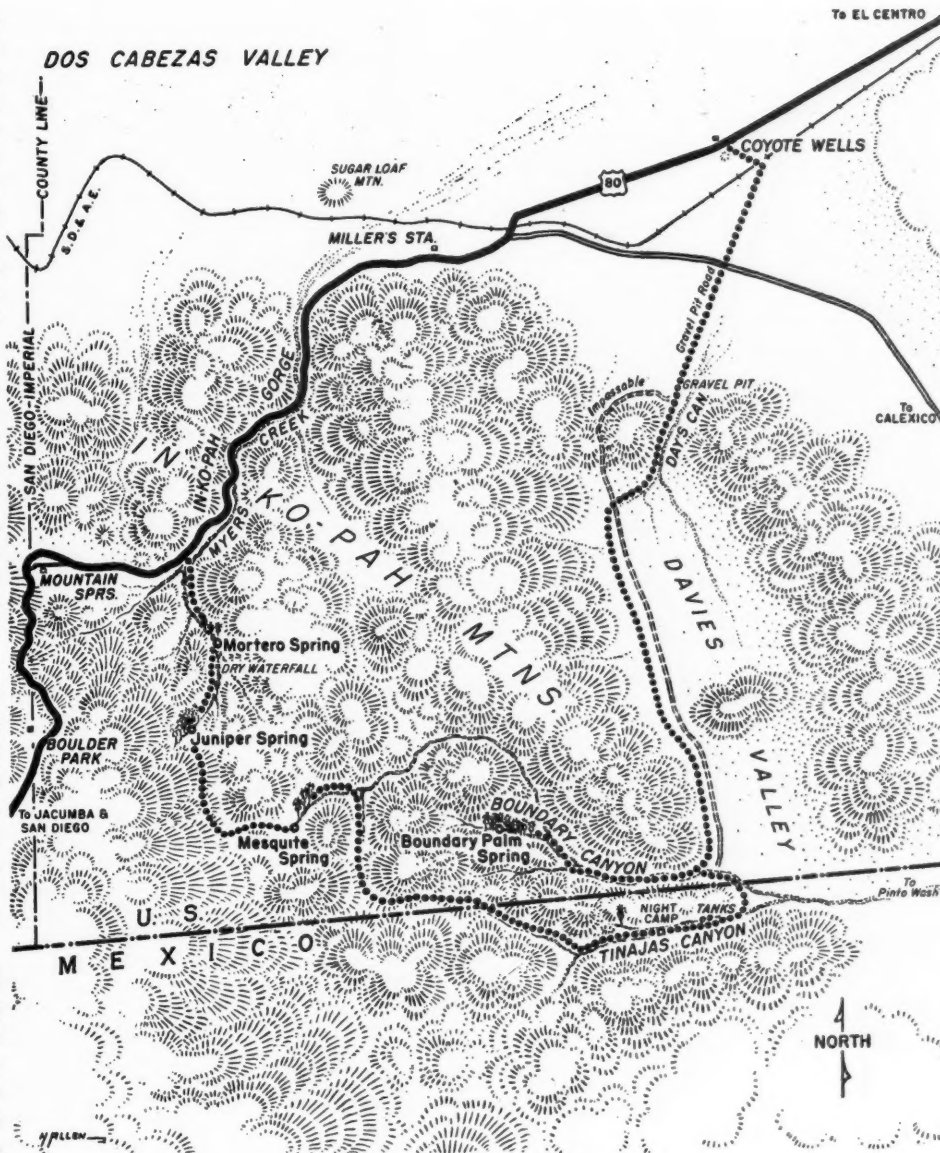
It became dark, and still no water. Finally, after 45 minutes of stumbling along over boulders in complete blackness, we found a low rock overhang where there was enough dead ironwood for a campfire. We were thirsty, but not painfully so. A cold wind blew down from the mountains, but we had good shelter and by replenishing the fire at intervals during the night, were comfortable.

Next morning at daybreak we continued down the canyon, and a mile below camp found natural tanks of fine water. I had seen these tanks before. They were in Tinajas canyon in Lower California. We had overshot our goal. Boundary canyon was north of us in United States. There are no boundary markers here and sometime in the dusk of the previous evening we had crossed the border and spent the night on Mexican soil.

At the storm tanks we cooked our first meal—hot chocolate with spam and cheese and wafers.

We knew where we were now, and while we had gone far out of our way, due to my misjudgment, neither of us regretted this unscheduled excursion into the rugged terrain of Lower California. Our route now was clear. We would continue out of the canyon to the floor of the desert and then skirt along the toe of the mountains to the next canyon north. The sand was well packed and we made good time, arriving at Boundary palm spring, 1½ miles up Boundary canyon, in time for lunch.

It is easy to miss those Boundary palms, if one does not know their location. Before reaching them, one comes to the junction where it is hard to tell which branch is the main canyon. There is a little valley at this junction, with a bench on the north side of



the creek. At one time this was an important Indian camp. The ground is strewn with sherds. There are dozens of mortars in the rocks along the creek, some of them deep and others shallow. A great brown boulder on the bench is covered on one side with a giant bird, evidently a pelican, encised there by ancient Indian dwellers.

At this old Indian camp one takes the right fork, and a quarter mile upstream turns left in another tributary. One palm has been burned recently, but the others were clothed in skirts of dead fronds. There is good water here. We ate lunch on the petroglyph rock, and then began the last lap of our trek—the nine-mile hike to Coyote wells.

Following the easiest route, we backtracked down Boundary palm canyon to its mouth, then climbed a bluff to Davies valley and followed an old road across the valley. However, instead of continuing through the mountains at the upper end of the valley we took a watercourse that

led down through Day's canyon to some old gravel pits four miles south of Coyote wells at the base of the range. Neither of us had been through Day's canyon, and we wondered if it might be possible at some future time to bring the jalopy into Davies basin by that route.

We found the answer half way down the gorge when we heard laughing and shouting ahead. Then suddenly we came to the brink of a 60-foot dry waterfall and were looking down into a secluded cove where a party of marine officers and their wives from the El Centro marine base were having a picnic party. They were even more surprised than we were at this unexpected encounter. We stood there a moment, then one of them happened to look up and see the two grimy trail-hounds grinning down at them. They showed us a route down over the face of the fall and invited us to share their coffee. We learned that one of the marines, a pilot, had spotted this delightful picnic spot while flying overhead.



Mrs. Robert Holmes and Sharlot Ann in the cradleboard the Holmes use for picnic trips into the canyons.

They reached it by parking their cars at the gravel pit and hiking a mile up the wash.

Lieut. and Mrs. Robert Holmes had brought their 6-months-old daughter Sharlot Ann along on a cradleboard Robert had devised.

We hitched a ride part way along the road to Coyote with one of the marines—a lift that was most welcome after two days on the rocky slopes of the Inkopah. We reached Coyote wells at five o'clock—on schedule.

On this and previous trips I recorded 77 native palm trees in this remote triangle along California's southern boundary. There may be a few scattered Washingtonias in this region not yet entered in my log book, but the number is not large. The limited water supply probably accounts for the sparsity of palms in this area.

We saw one elephant tree, on the slope of Tinajas canyon, and everywhere canyon wrens were singing. Wildlife is not plentiful in this region—except wrens. Their song filled our ears every hour of the day.

Undoubtedly the prospectors have

combed this region for minerals. But the only evidence we saw of their activity were two "coyote" holes with the yellowed claim notices still in place, on a "gem and tungsten" mine located October, 1906, by E. O. Stone and again in 1918 by George H. Vear. The other was located by J. E. Peck in 1931 and relocated by F. J. Warren in 1934.

The miners have found nothing of value in this 60 square miles, the cattlemen long ago passed it up as too sparse for range, the water supply is limited, it has nothing for the game hunters, it is too inaccessible for campers, and too close to the border for a real estate subdivision. So, I have concluded that the "forgotten triangle" probably will remain one spot on the Southern California desert where another Marshal South can build a little house of stones and spend his years writing poetry and contemplating the follies of mankind. In fact, if they ever again start dropping atomic bombs in this half-civilized world in which we live, I am going out there myself. My address will be a palm-thatched hut at Juniper spring.

Part of the palm group at Juniper spring—where the author wants to build a palm-thatched hut.



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Striped Sphinx Moth

By RICHARD L. CASSELL

ONE OF the 8850 species of moths in North America, the Striped Morning Sphinx, *Celerio lineata* (Fabricius), is identified by one pair of white striped wings and another pair marked with broad pink bands.

The striking colors of this member of the moth family are visible only when the wings are spread. At rest, with forewings folded back dart-like, their splendor is concealed and the moth has such fine protective coloration as to make it hard to find.

To photograph the distinctive markings, it is necessary to focus on the moth in flight. This is a problem. Its flight is like that of a hummingbird, and it often is mistaken for a hummer.

The wings are but a blur as it suspends its heavy body above the flower with its long "tongue" deep in the blossom from which it sips nectar. No ordinary lens is fast enough to catch these wings in sharp outline.

This moth has a wide range, being found from southern Canada to the Gulf states. The caterpillars feed on purslane, dock and other plants. Its post-cocoon days are spent feeding upon nectar from thistles, morning-glories, primroses and similar trumpet-shaped blossoms.

During the day this moth, like other large-bodied species, is stupid and sluggish. It vibrates its wings in a sort of "warming-up" exercise for several minutes before taking off. The flight, when not feeding, is swift and erratic, but may continue for a considerable distance.

While not limited to the desert area, the moth often is found in the desert country and the accompanying photograph was taken in Nevada.

Mines and Mining . .

Bagdad, Arizona . . .

Erupting like a huge volcano, 150,000 tons of low grade copper ore were released in the open pit Bagdad mine recently when a carload of dynamite—287,000 pounds—was used in a single 23-hole blast. Bagdad mine was worked 60 years ago, but lay dormant for many years until war needs brought it back to production in 1943. Its mill is now processing 80,000 tons monthly. General manager is Ernest R. Dickie.

. . .

Reno, Nevada . . .

Volcanic rock, generally regarded by mining men as waste material, may become one of the most important factors in manufacturing if predictions made by H. W. Gabriel Jr., are confirmed. Gabriel states that he has formed a million-dollar corporation to dehydrate the silica in volcanic rock which abounds in western states. He calls the product of his new process X-Rox and asserts it can be used for practically any purpose for which plastics are now used, including door knobs, plumbing fixtures, steering wheels or anything now made of concrete, porcelain, china, clay and plaster. Articles of incorporation for the company have been filed at Carson City.

Salt Lake City . . .

War Assets corporation on May 24 approved the U. S. Steel corporation's bid of \$40,000,000 plus \$7,500,000 in inventories for the Geneva steel plant in Utah. In its original bid U. S. Steel agreed to spend \$18,600,000 in reconversion work at the plant and \$25,000,000 for a cold-roll reduction plant at Pittsburg, California. Six bids were submitted to the WAC on May 1. One of the bids for \$302,000,000, which was \$100,000,000 more than the cost of the plant, proved to be a hoax. Sale to U. S. Steel now hinges on a favorable decision of the U. S. Attorney General who will rule on the legality of the sale with respect to antitrust laws.

. . .

Winnemucca, Nevada . . .

Anaconda Copper company has acquired the Yerington copper property in Lyon county, Nevada. Exploratory reports show 50 million tons of 1.02 per cent ore.

. . .

Beatty, Nevada . . .

Many claims are being staked in the Pahute Mesas country where John Carr, veteran prospector of Beatty, reports the discovery of \$10 to \$12 ore in an 80-foot ledge of porphyry. Free gold occurs in the talc-like material.

Indio, California . . .

Purchase of all outstanding rights to the Eagle Mountain iron deposits formerly known as the Iron Chief mine, has been completed by the Kaiser Company, Inc. The mine is located 130 miles from the Kaiser mill at Fontana. Originally the property was acquired by the Harriman railroad interests and later transferred to the Southern Pacific Land company. Early in the war Kaiser acquired the railroad's title, and more recently, he has bought certain interests of E. T. Foley and associates, giving him complete ownership and operating rights to the property.

. . .

American Potash & Chemical company at Trona, California, has announced plans for the construction of a \$300,000 research and chemical engineering laboratory in addition to facilities already in operation.

. . .

Walter W. Bradley, chief of the California division of mines, has announced that he will retire July 1 after having served the state 34 years.

. . .

The silver bloc in congress obtained a partial victory May 22 when the Senate banking committee approved a bill to increase the price of domestic silver to 90c an ounce, with an additional increase to \$1.29 July 1, 1948.

To Keep Imperial Valley Farmers Growing Vital Foods . . .

Normal maintenance of Imperial Irrigation District's extensive Irrigating System—with its more than 3,000 miles of canals and drains — and 27,000 canal structures — was achieved during the past year despite labor shortages and scarcities of essential materials.

IN ADDITION . . .

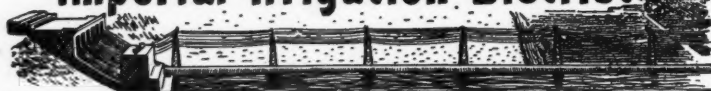
25.28 miles of new drains were constructed and 20.5 miles of drains reconstructed. This alone involved laying 18,117 feet of pipe—grading 82.9

miles of rights-of-way—moving 7.75 miles of fences—and building 23 bridges. Inspiring too is the record set by your District's weed burning crews who burned more than 18,000 miles of canal and drainage canal banks during the year.

EFFICIENT OPERATION . . .

Keeps down costs and insures delivery of water to Imperial Valley's fertile acres producing food for home consumption and for the famine areas of the world.

Imperial Irrigation District



Use Your Own Power—Make it Pay for the All American Canal

Shrub That Wears Royal Purple Robes

By MARY BEAL

JOHAN C. Fremont became famous as the leader of several expeditions into the unknown West. While he was making an indelible mark on Western exploration and military history, he also made valuable contributions to its botanical lore, preparing dried specimens of all new plants observed. Many of our Western species were made known to scientists by Fremont's collections. Among the many species that commemorate his name is the Fremont Dalea, first encountered by him in the northeastern Mojave desert, following the old Spanish Trail after it left the Mojave river, heading for Nevada and Utah. It was in late April when the shrub was at its best, covered with bright purple flowers. It occurred frequently along their road, at times in abundance.

Parosela fremontii

The Fremont Dalea is so variable that botanists have added three varieties to the species but even that does not pigeon-hole the many intergrades. In its original form it is a slightly-hairy shrub 1 to 3 feet high, the pinnate leaves with 3 to 5 narrow leaflets about 1/4 inch long, the corollas vivid purple, the calyx downy inside and out, the pods marked by glands. It flourishes at moderate altitudes in southern Utah and Nevada, extending sparingly into California as far as Owens valley and the ranges at the northern edge of the Mojave desert.

Parosela fremontii var. *saundersii*, named for Charles Francis Saunders, author and botanist, whose delightful books include desert chapters of botanical and human interest. (For an account of his desert work, see *Desert Magazine*, April, 1941.) Usually quite a green bush, the leaves with 5 to 11 elliptic or oblong, gland-spotted leaflets. The reddish or brownish calyx is bald outside and hairy within, dotted with glands. Found rather frequently on mesas, hill and mountain slopes of the Mojave desert, Death Valley and Mono county.

The variety *johnsonii* is a leafier bush, the 5 to 11 thinly-hairy leaflets very narrow, sometimes nearly an inch long, slightly glandular. The numerous racemes of purple-blue flowers are 3 to 5 inches long. The pod, conspicuously gland-dotted, has a beak as long as its fat body. It ranges from the south-central Mojave desert through Death Valley to Nevada, southwestern Utah and Arizona. It blooms in April and May.

The variety *californica* is a gnarly, spiny bush averaging 2 to 4 feet in height, the downy, gland-speckled leaves with 3 to 7 narrow leaflets, the short racemes of indigo-blue flowers rather dense. You'll find it in valleys and canyons of the ranges bordering the northwestern Colorado desert.

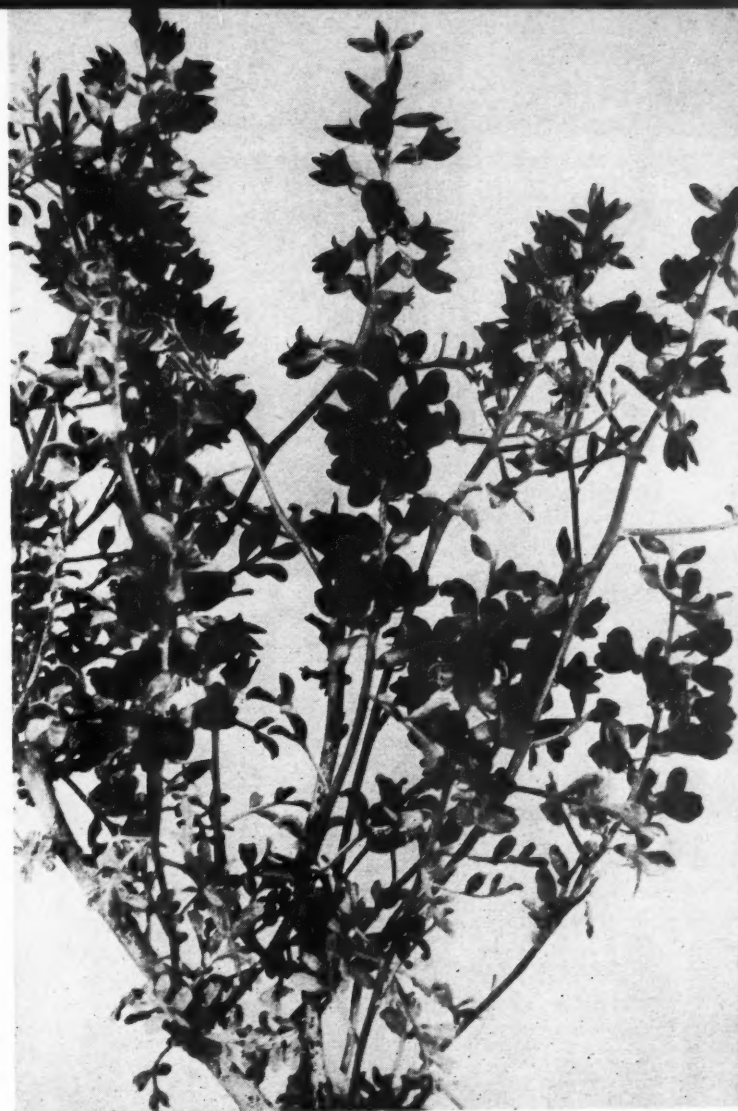
Parosela polyadenia

The Nevada Dalea is intricately branched, more or less spiny, 1 to 3 feet in height, both stems and leaves cloaked with a dense felt-like wool thickly dotted with yellow glands. The pinnate leaves have 5 to 13 very tiny obovate leaflets, the tips notched.

The small flowers are crowded in dense racemes 1/2 inch to 1 1/2 inches long, quite short but making a fine splash of color with their red-violet corollas, the calyxes marked with conspicuous red glands, as are the pods. Its habitat is sandy or gravelly slopes and flats, ranging from southwestern Utah and Nevada into California as far west as Owens valley, south through Death Valley to the central Mojave desert. Blooms in May and June.

Parosela arborescens

A pale greyish shrub is the Mojave Dalea. It is somewhat spiny, usually 2 or 3 feet high, the leaves with 3 to 7 obovate leaflets up to half an inch long, felty with a dense coat of soft white hairs. The upper branches are often a shining golden-



Variety of Fremont Dalea, named for Charles Francis Saunders. Photo by the author.

brown, shedding their downy hairs early, marked by scattered, very slender, yellow glands. Innumerable racemes of deep bright-blue flowers make the bush quite decorative, although the clusters are only an inch or two long. The corollas are rather large for Daleas, sometimes half an inch long. The densely white-hairy pod is speckled with conspicuous dark reddish glands and the calyx may be rusty.

Found on mesas and washes of the central Mojave desert, north to Mono county, from valley to mountain elevations, it is nowhere common but flourishes in rather large groupings in some of the northern Mojave desert ranges. I know a few shallow washes that marshal quite an array of them, meandering along the sandy course like a stream of ultramarine in April and May.

Parosela grayi

A shrubby herbaceous perennial with stems and leaves smooth and hairless, the leaves with many leaflets, up to 51 reported. The flowers, disposed in dense cylindric spikes, are white, the banner turning purple when dry. Its blooming season is from May to September, in the hills and mountains of Arizona, New Mexico and across the border into old Mexico, from 3500 to 5500 feet elevation.

Another white-flowered species found in about the same range but up to 7500 feet, is *Parosela albiflora*, its stems and leaves soft-hairy and leaflets less numerous than those of the leaves of *P. grayi*.

Arizona and adjacent areas have several other species of Dalea but the ones noted should aid in recognizing a plant of the genus whenever you encounter it. When in flower they are noticeably ornamental, and some of the species were useful to the Indians in various ways.



Mother Nature was in a whimsical mood when she set about carving and arranging the strange parade of rock formations in Joshua Tree national monument's Wonderland of Rocks. Here a master cameraman has caught some of these formations with the shadows just right to bring out their weird forms.

By HARRY VROMAN
Photographs by the Author

The Bogeyman

WE STOPPED the car before the gate and read the small weathered board sign, "Lost Horse Wells." It was a welcome sign in this thirsty land. We were looking for a place to get water for our dry camp near Hidden valley in California's Joshua Tree national monument. Just inside the gate was a cozy little adobe cabin with red roof, and up on a low knoll behind it was the windmill—promise of pure cool water. Around the well was a litter of mining machin-

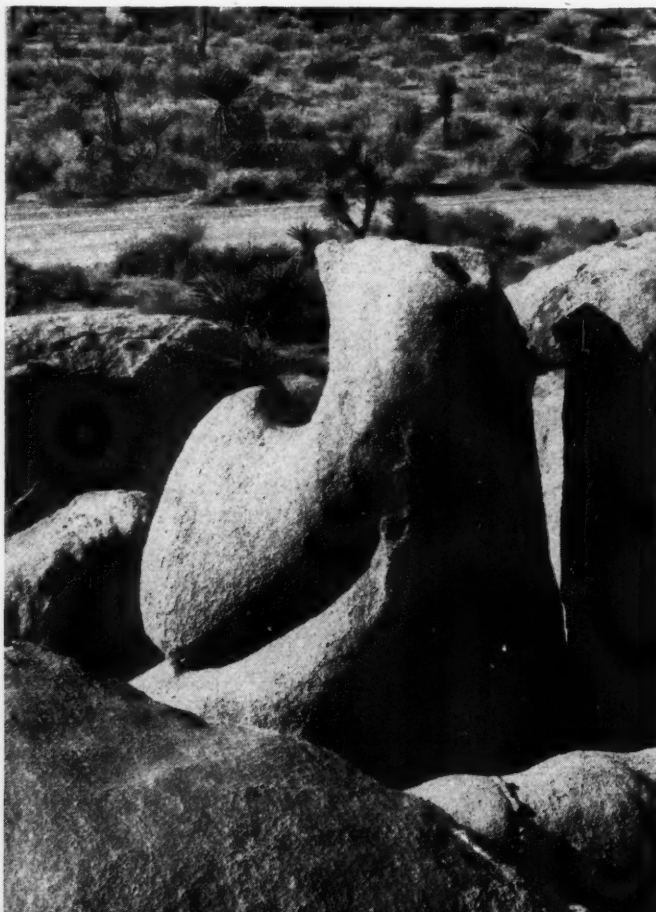
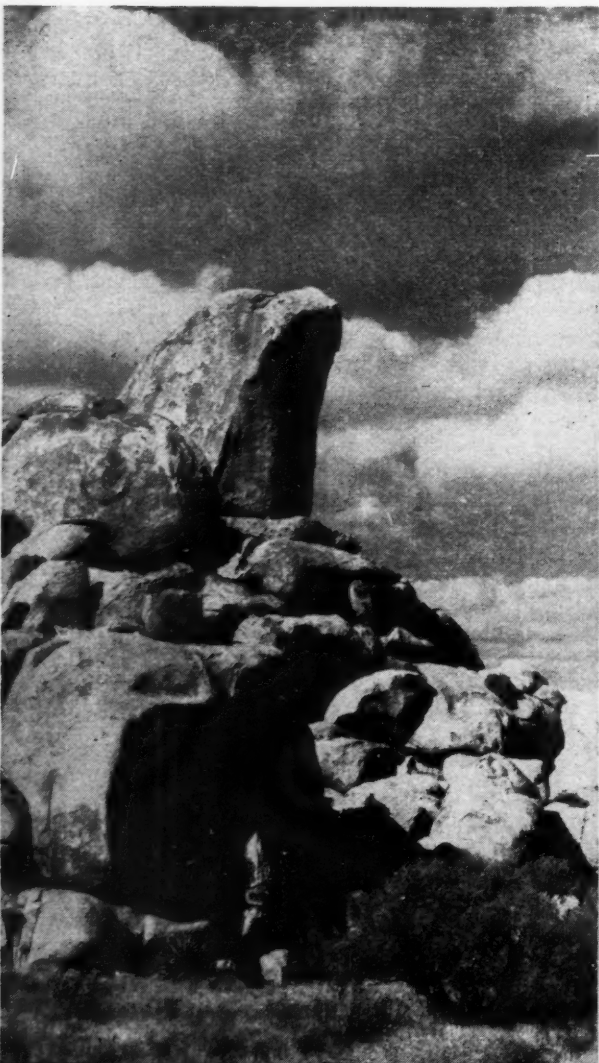


*Beaver
Rock*

Freak Rocks in Nature

The Penguin

Old Rock





Rock



The Catawampus

ery, rusting away through years of disuse. There had been a time when it was too busy to gather rust. That was when the Lost Horse mine was in operation, producing gold bricks for the mint. Now the little adobe cabin and a large adobe building on a low knoll over at the left are all that remain of the old mining camp. Beside the little cabin a shallow pit is walled with stones, once a storage cellar for food. Around the yard are paths lined with stones, and the crumbling

remnants of the buildings long ago occupied by those whose graves near the gate are marked by dates painted on the granite boulders.

The Ryans, Jep and Addie, owners of Lost Horse wells and mine, are friendly folks. They told stirring tales of the pioneering days in this region.

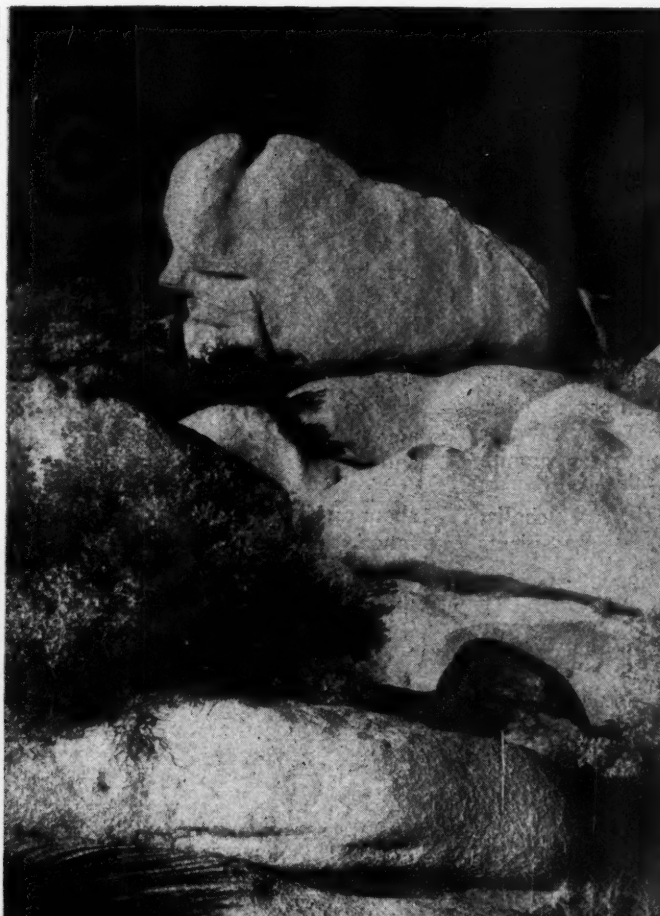
For many years we had anticipated our first desert trip. This second trip was to leave us with an insatiable desire to return again and again. We became so absorbed in the Rock Wonderland of

nature's Wonderland

Old Rock

The Trojan

Elephant Herd





Bull Rock—Prehistoric Monster

Joshua Tree monument and so filled with a desire to record these scenes by camera that we were reluctant to return to our city home.

After getting settled in our camp under a tree beside Crown rock, a half mile from the monument's main road, we were ready for an early start next morning to Hidden valley. Later we were told this place is infested with rattlesnakes, but neither then nor since have we encountered one there.

Many tales have been told of the operations of cattle rustlers who, in long-gone days cached stolen stock in Hidden valley. We wanted to find where they rolled boulders across the narrow entrance, closing the only opening in the granite walls surrounding this secluded cove. It was apparent that the southern entrance, near our camp, where we crawled into the valley on hands and knees through boulder tunnels, was not the place called "the cattle entrance" or "horse thief trail." After traversing the mile-long valley, exploring and searching all the possible places, we found the narrow passage along a dry wash. On one side of the portal was a towering perpendicular cliff, on the other steep rocky slopes. Here it could have been easy to close the narrow passage with boulders or fence rails. Straight on for another mile the dry streambed leads through steep granite slopes and cliffs to the open country. What a hide-away!

Inside we found a spacious level meadow with piñon, cholla, wild buckwheat, nolina, Spanish dagger and other desert plants and shrubs growing in abundance. Near the south entrance, just to the right of the boulder-tunnel, we found Trojan rock, the enormous face on an armor-clad Roman soldier. At the northern end we found the famous Bull rock, high on a rocky pinnacle. At another spot on the west wall, at ground level, a strange form of erosion has carved out the Elephant Herd.

Earthquakes have played their part in this region. As we approach the Ryan home we pass Beaver rock, so named by them.

From one position this rock has the form of a tall thin obelisk, while from the gate, and near the little cemetery, at certain times of day when the light and shadows are right, it has a close resemblance to a beaver's head. Close to this tall rock column is a smaller rounded boulder which Jep Ryan says was split from the column on Christmas morning 1896, during an earthquake. A man was camped just below Beaver rock at the time. Ryan advised him to move camp, saying that another quake might come, and if it did "there won't be enough left of you to grease a pair of shoes."

At the junction where the road goes on to Key's View, or Inspiration Point, there is an enormous boulder lying beside the road. It is at the foot of a great rock mass. High up on the side is a corresponding notch, from which this huge rock rolled down in 1904, while the Ryans were away from home. I had estimated the giant boulder to be 75 feet long, so was quite surprised when, after a difficult bit of rock climbing I reached the notch from which it had fallen, and pacing off the nearly level area found it to be well over 100 feet in length. A strange feature of this pile of enormous boulders is a granite slab of perhaps 30 feet in length, balanced precariously on the top. How did it get there? Possibly just a chip thrown back when the giant boulder broke away.

Far beyond the Key's ranch region are other remote rock ridges and peaks, impressive and inviting, with prospects of still more of the surprises such as we have already found in the more accessible regions.

Most spectacular of the strange rock faces in this Wonderland of Rocks is Skull rock, a rounded mass at the junction of Hidden Valley road. Below the skull is the fantastic Catawampus, crouching just a few feet above the road. At the opposite end of the formation is a huge face in profile of what we termed the Live Indian. Walking around this great rock mass we found the Baby Face and the Chef in tall white hat. These are only discernible at certain seasons of the year and a certain time of day.

Across the road from Skull rock is Old Woman rock, which also resembles a Confederate soldier of Civil war days, with knapsack on his back. Nearby is a fine large rock mass which we called the Egyptian Lion and beyond it, across the Key's ranch road is the beautifully ornamented Palace rock. In front of the Old Woman rock runs a short side road which leads us into the Indian village. Here in a secluded cove are evidences of Indian occupation. At the entrance is a symmetrical hollow boulder 16 feet high with a few petroglyphs in the cavity. Near this on a smooth low ledge is a finely formed mortar where the cooks of those ancient people prepared their grain or seeds. Behind this small boulder pile are more petroglyphs and a tiny cave where ancient campfires have blackened the walls and ceiling.

Close beside the road to Split rock, as we went on past Lost Horse wells, we were quite startled at discovering the Bogeyman rock. A pointed cap perches on his head, and with deep sunken eyes he peers down on the road from the safety of a growth of catsclaw. Split rock at the end of a short side road, is near Pinto Basin road, where there are heavy growths of jumping cholla. A large cave under Split rock is frequented by campers and picnickers. Around the opposite side of Split rock are several strange erosion formations of unusual interest, such as Punch and Judy rock, Turkey and the Egg, the giant Granite Apple and the enormous Spearhead.

Mother Nature truly was in a whimsical mood when she set about carving and arranging the strange parade of oddities to be found in the Wonderland of Rocks. I have photographed only those found in the more accessible places—and probably have missed many which others have seen. Thorough exploration of this great area of jumbled rock formations probably will disclose scores of freaks not yet recorded.

Joshua Tree national monument with its fantastic rock sculpturing, its colorful botanical gardens, and its wealth of legendary history is indeed a happy hunting ground for the camera enthusiast.

Hours spent in climbing desert hillsides and exploring canyons for wood might spell drudgery to many—but not to the South family. Each excursion proves to be an adventure and not only adds to their knowledge of their desert home but contributes to their mental and physical well being. Marshal this month tells about such a wood gathering trip, the high point in a "peaceful" day at their temporary quarters.

Desert Refuge

By MARSHAL SOUTH

THE DESERT sparkles in the sharp morning light. In the east, where the sun is an hour high above the dim tumble of distant mountains, a thin blue haze veils the lowlands. Against the background of its far mystery the barren buttes that crowd the foreground of our footslope valley stand harsh and savage in the sunglow. The light spills dizzily from the precipices of their titan boulders. In the vast clefts of the rocks are blue caves. Here and there, clinging thirstily in fissures of the age-scorched stone, are sparse shapes of cactus and wiry thorn.

Our little house is muffled in a drowsy silence. The blanket of peace and quiet is made even more complete by the multitude of tiny sounds woven through it—the almost inaudible rustle of cottonwood leaves, the drone of bees, the distant calling of quail, the metallic whir of the wings of an inquisitive hummingbird as he hangs suspended above my head, an occasional murmuring from the far end of the porch where Rider, Rudyard and Victoria are deep in their lessons. All these faint sounds, and a host more, contrive to add to the spell of solitude and silence.

Cottontail rabbits nibble at the grass which grows in the shelter of catsclaw bushes; on the brown ribbon of roadway near the front steps a pair of quail are sauntering about, picking up trifles, and the two desert phoebes, whose mud walled nest up under the porch eaves is almost complete, are chirping and whispering to each other as they fly in with tufts and streamers of nest-lining material—streamers which often are several times as long as themselves. Our whole little desert world seems happy, and it promises to be a good day, even for the gophers. For the big red racer snake who was poking a speculative nose among their earth mounds and tunnel openings last evening became annoyed at Rudyard's scientific interest in his movements and lit off cross-country in a red flash.

The days are warm now—warm with that elusive, satisfying quality which makes desert sunshine superior to that of any other region on earth. Daily the sun gathers strength and the children, who take the tortoises out of their pen for a period of free grazing every afternoon, have taken to carrying an old umbrella so as to provide a movable oasis of shade into which their slow-moving pets can retire for a cool-off any time they feel the need of it. These tortoise herdings are not the joyous occasions that they used to be, up until a few days ago, and the young herders, as they superintend the nibblings and meanderings of General and Doña and Juana Maria, are oftener closer to tears than to smiles. For they cannot forget Mojave. Wherever they go, up the sandy wash or across the slope or among the thin shadows of the catsclaw bushes, Mojave's ghost moves with them—lumbering, lovable, good-humored wraith that plods on and on, dragging a ghostly tether chain—a poignant shadow of memories that blurs in a welling dash of tears.



Victoria and Rudyard enjoy a pool of cool water in the canyon near the Souths' temporary refuge.

For Mojave is dead. The largest, most intelligent and most lovable of all our tortoise quartet, he came to a tragic death just a few days ago. It was a Sunday morning and Rider had carried him out of the house, where he had spent the night in his padded box, and tethered him by his long, light chain to his accustomed stake in the garden. It was Mojave's regular stamping ground. He used to graze and nibble and amble all over it, retiring when it got too sunny to the shelter of a big box half dug into a bank of earth. Mojave always had been contented in that location and never had any trouble.

But this day something went wrong. For some reason, contrary to his usual habit, Mojave decided to walk round and round his tether stake. And he did it at close range, so that when he tired of his new trick and wanted to get to his shady box he just couldn't make it. He had wrapped the chain around the stake and it wouldn't pull free.

Imagination is a terrible thing—especially when it is imagination made accurate by previous knowledge of facts and conditions. All of us would give a great deal if we were not able to reconstruct so clearly in our minds our poor old pet's frenzied strainings and pawings and tuggings in his efforts to reach that life-saving shade, just a few inches beyond his reach. Rider was busy with some chores about the house that morning. He did not make his usual frequent trips to see how his pet was getting along. When he did come Mojave was dead. He had been dead maybe an hour—perhaps less, for this was well before noon, and it was not a particularly hot morning.

For a long while the children wouldn't believe that their pet was gone. They soaked him in water. They gave him salt pack applications. But to no avail.

We buried Mojave the next morning, prying out for him a deep hole among the rocks of a sunny slope. The children cushioned his last resting place with piles of green grass and fragrant wildflowers that tucked him in like a blanket. Then we filled in the grave and went away.

Yesterday we went up the canyon for fuel. Fuel gathering is one of the continual diversions which is fortunately imposed by primitive living. I use the word "fortunately" because it is one of the sad qualities in man that unless he is impelled by necessity he will neglect many things which are vital to his well-being. Nature is a wise mother. She knows this tendency in her children toward those habits of indolence and inactivity which invariably end in degeneration. So, upon those who dwell close to her bosom, she enforces activity. Wild creatures and primitive humans have to keep hustling—have to keep both their wits and their bodies at keen edge by constant exertion. This is a law laid down by Nature which man never yet has succeeded in circumventing. He deludes himself with the idea that he has done

so. But Nature always comes back with the last laugh. And by the use of his every device to escape physical exertion, his whole physical being suffers and degenerates. The automobile, which makes it so much easier to ride than to walk, enfeebles his legs and every organ of his system. His lighting systems—which are so much “easier” than torches or campfires—ruin his eyes.

So the necessity, forced upon us, to collect and carry home fuel is an excellent thing. And though, like all other animate creatures, we sometimes complain of making the effort, we invariably return from these excursions invigorated both in body and mind. For any task or any experience reacts upon us precisely in accordance with the mental attitude we bring to it. I have known people who, upon their first view of the Grand Canyon, have declared that they would not give 15 cents for the whole region (and perhaps, to them, their valuation was correct). On the other hand, there have been many individuals who have gained for themselves both ennoblement of soul and imperishable fame while languishing in a prison cell. “Disadvantages” nearly always are stepping-stones to greater development, if we have the wit to appreciate them. It is the “advantages” which are deadly.

Fuel changes with location. And the materials which we feed to our fires are different here from those which we packed home over the rocks of Ghost Mountain. There our reliance was upon the dry butts of dead mescal plants and upon the dead wood of gnarled, windblown junipers. Here we have neither of these, but in their place a variety of wood, sticks and stumps which range from the smoky, swift-burning stems of dead buckwheat bushes to the hard, long lasting wood of the desert mesquite. There is not much of the mesquite, however. For the clump of trees from which we gather it is small. The mesquite, which is in many ways a wonder tree has been ruthlessly destroyed by the white man so that now, to cut down a living tree, is nothing short of a crime.

There are other growths, however, which contribute to the baskets and bundles of fuel which we carry home upon our shoulders. There are the stumps and dry branches of the wild apricot, the wood of dead sumac, the tall dry stems of the Whipple yucca. All of this makes good burning. Often though, it is with great reluctance that we consign big chunks of naturally seasoned wild apricot to the flames. Some of this wood is so beautifully grained and colored it seems especially intended for the fashioning of artistic trifles. One cannot however save every stick of firewood for “art” work. And besides our time for such occupation is limited. Many of the desert growths produce beautiful wood. It is small in size, but it well repays carving or polishing. It isn’t necessary to destroy living growths to obtain specimens. The very best pieces are those that have died naturally and seasoned on the tree or bush. The dead flower stalks of the Whipple yucca have little staying power as fuel, being somewhat like the twisted straw and grass which the early pioneers had to burn on the plains. But they do give an intense quick heat while they last. These tall dead stalks, whether erect or blown down by winds, are popular as dwelling places with various little desert creatures, who take advantage of the hard outer surface and soft, easily gnawed interior, to construct themselves cosy homes. One particularly big stalk with a huge base bulb which we carried home proved, on being broken up, to contain a mouse dwelling, neatly and cunningly constructed in the hollowed-out interior of the butt and reached by a long passage down the inside of the stem. A couple of startled mice scampered from their ruined domicile as the trunk split under our axe blows. Since this incident we carefully examine every yucca stalk before bringing it home. Our little desert brothers have to work too hard on their house building to have their homes unnecessarily destroyed.

Thus it is that fuel gathering always adds to our desert knowl-

edge, besides contributing to our well being through healthy physical exercise. Yesterday we saw a deer flitting like a shadow through the underbrush of the canyon, and Rider came home with a collection of gay new flower blooms as well as his wood load. In addition we brought back with us pleasant recollections of a meeting with a friendly racer snake; a pause to examine a contented little horned toad, lazily sunning himself upon a boulder; and the discovery of a broken Indian metate at the edge of the mesquite clump.

There was a mysterious scratching and tapping in the house when we came back and opened the door and it took us some time to determine that the strange noise came from the stovepipe. This, on being disconnected, released a panting and startled crested flycatcher which, after a brief rest on the corner of the table to get its breath, flew gratefully through the door to freedom. The bird must have been making venturesome exploration of the stovepipe opening on the crest of the roof, and, having gone too far down, was unable to use its wings to fly out. Thus it had slipped and fluttered down the long stove pipe to the stove damper. Fortunately the stove and pipe were quite cold.

The palo verde tree glistens with the sheen of new green leaves and tiny globes of forming flower buds. Before this is printed it will be a glory of yellow blossoms, a brilliance of color responsible for the poetic name of *lluvia de oro*, which is Spanish for “shower of gold.” And a shower of gold it truly is when in full flower. The beans too, which follow the flowers, are good to eat, either boiled while green or pounded into a meal after maturity.

Last summer an industrious mouse stored a huge quantity of these beans under the safety of an old overturned deep granite-ware pie dish that lay beneath the tree. It was a granary to which the owner made periodic trips for food, obtaining access each time by digging down under the edge of the dish and afterwards plugging up the tunnel with earth. A canny packrat, at the same time, brought a pint of the carefully cleaned beans into the house. These he stored in one of our small pottery jugs that was standing on an open shelf. He brought in beans enough to completely fill the jug. Afterwards, bit by bit, as he needed them, they disappeared.

It is afternoon. Cactus flowers flame upon the rocky ridges and across the grey line of the buckwheat bushes the sides of a close-crowding mountain shimmer hotly in a blur of thin brush and glaring rock. Flattened, alert, upon sunny stones bright eyed lizards watch for unwary flies. And upon a blanket in the cool shadow of the house wall Victoria picks her way carefully through a little book entitled *The Dancing Goat*. Beside her Rudyard plows steadily through a story in the *Saturday Evening Post*. The regular afternoon reading session is in full swing.

And so, fulfilling its promise of the morning, another desert day draws, in peace, to its close. There are some who will try to tell you that life is grim and earnest and a most serious matter. Do not believe them. Life, whether in sunshine or in passing shower, is a glad song of Eternity, sung to the music of the spheres. All that matters is how you accept it. For, like a mirror, it will return to you in full measure just what you give it—either in scowls or in smiles.

NO CHOICE

*There is no choice but to do right.
And for the Truth to staunchly fight—
Loyal and fine at core. To live
Your very best at all the time,
Ready to generously give
All things to walk the Path sublime.*

—Tanya South

HERE AND THERE... on the Desert

ARIZONA

Water Supply at Low Level . . .

TUCSON—U. S. geological survey figures in May indicated one of the worst droughts in Arizona's history. Except for the Colorado river, conditions were worse than in 1934, the last bad year. A report from San Carlos irrigation and drainage district, at Coolidge, predicted water would be too low for withdrawals by June 1, and farms in the area would be dependent on wells or be without water. Yuma reported driest season since records began in 1870. Salt River valley, in which Phoenix lies, had a runoff 31 per cent normal, lowest since April, 1934, the second lowest since 1921.

Canyon Ready for Tourists . . .

GRAND CANYON—North Rim accommodations in Grand Canyon national park opened May 20, Superintendent H. C. Bryant announced. Camp center includes cabin camp with capacity of 90. Grand Canyon Lodge, with deluxe accommodations for 400, opened June 1. Bus service on circle tour from Cedar City, Utah, covering Zion and Bryce national parks, Cedar Breaks national monument and North Rim started June 2. Because of unprecedented crowds both at North and South rims, visitors should have reservations confirmed before coming to the park.

New Director for Gila Project . . .

YUMA—Joseph P. Collopy in May was appointed superintendent of operation and maintenance for Gila project, one of most important in region three of bureau of reclamation. It is predicted 5000 acres of public land on the Yuma mesa division of project will be opened to veterans for homesteading by late 1947.

Wetherill Monument Assured . . .

KAYENTA — Contributions received by May 1 were sufficient to proceed with building of a monument to John and Louisa Wetherill, who spent most of their lifetime in Navajoland and added much to white man's appreciation of the tribe. Dr. Harold Colton, director Museum of Northern Arizona and acting secretary-treasurer of the memorial committee, reported contributions from 25 persons, totaling \$670. Monument will be of rough sandstone bearing bronze marker. Area will be enclosed by a low stone wall. Committee plans to publish notes of the Wetherills. Dr. Clyde Kluckhohn, committee member, will edit Mrs. Wetherill's manuscripts, and Emil Haury, another committee member, may edit John Wetherill's manuscripts. Jimmy Swinnerton is acting chairman of the group.

Gamblers Compete for Business . . .

PHOENIX—Church and other groups in Arizona are deploring recent mailing of some 30,000 circulars, urging legalized gambling, to business and civic leaders throughout the state. Mailing included draft of proposed gambling law and form letter from a Phoenix night clubman. Campaign followed reports that Las Vegas gambling operators were opening branches in Searchlight, about five miles west of Davis dam site and were planning to offer free bus service from the area where the \$77,000,000 dam will be built during the next five or six years. Sympathizers of gambling plan claim Nevada interests are preparing to spend huge sums to block passage of gaming legislation in Arizona.

Meteor Crater an Impostor? . . .

PRESCOTT—Arizona's famous crater, usually referred to as Meteor crater, was not caused by impact of a projectile from outer space at all, declared Dr. N. H. Darton of U. S. geological survey before annual meeting of Geological Society of America in Pittsburgh, as reported in May issue of The Masterkey, published by Southwest Museum, Los Angeles. Persistent search for the supposed deeply buried meteorite, on which more than \$1,500,000 has been expended, merely has proved it isn't there, Dr. Darton said. He believes crater was caused by a volcanic steam explosion and has given the formation name of Crater Mound, a name officially adopted by U. S. board of geographical names, thus becoming obligatory for use on all approved maps.

Davis Dam Road Bids Too High . . .

PHOENIX — State highway commission May 27 rejected low bid of Utah Construction company to build 27 mile road from Kingman to Davis dam site. Bid of \$267,122 was 29.4 per cent above estimate of department engineers. Job was to be re-advertised immediately.



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GOLD—Wanted information about deposits of gumbo, dobe or clay containing substantial values in gold, etc. Practically 100% saving in a very simple manner. E. C. Blackburn, 3123 Glen Manor Place, Los Angeles 26, California.

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WE ARE AGAIN RECEIVING real hand-hammered Indian jewelry from the reservation all made by top silversmiths. For our rock customers we have bought another collection of rock, making this one of the largest collections of rocks and minerals in this part of the country. Our collection of rugs, baskets and jewelry is still large despite the shortage. Come in and see us. Daniels Indian Trading Post, 401 W. Foothill Blvd., Fontana, Calif.

DESERTATIONS: Lot's o' folkses seem t' think the Golden Rule is "Do unto t' others as y'u know dern well they'll do unto y'u." Which recominds me that Pappy's son, Rocky, is shootin' Injuns—with his camrydak, an' is gittin' sum swell Indian Dance an' Arts & Crafts picturgrafts. Iffen yer intrested just ryte t' Rocky, care o' the DesArt Shop, 215 E. De-Vargas St., Santa Fe, N. M. (Note new address). Azzever yourn, Art of the Desert.

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Bridegroom Eludes Mother-in-law . . .

FLAGSTAFF — Indian legend and white man's law caused confusion at local marriage license office when Haskey Littleman, 24 year old Navajo, brought his bride-to-be to apply for license. Since she was but 16 parental consent was necessary. But when girl's mother was brought in, bridegroom hid behind the door. Prospective mother-in-law gave her consent and departed, then Littleman came out of hiding. Navajo legend says bridegroom will become blind if he sees his mother-in-law.

Death recently took Woodworth Clum, son of John P. Clum, founder of Tombstone Epitaph. A native of Tucson, he was founder of Los Angeles Down Town Shopping News, organizer of Adcraft, Inc., now known as Pacific Press, Inc., and author of *Apache Agent*, story of his father's life. He died at age of 67 in St. Vincent's hospital, Los Angeles.

New census reveals Tombstone now has population of 2200, compared with 820 in 1940.

Santa Fe railway in May announced plans to construct a new double track, two-hinged, steel arch over Canyon Diablo, about midway between Flagstaff and Winslow.

CALIFORNIA

Fund Cut Won't Stop Canal . . .

INDIO—Recent slash of more than three million dollars from funds for All-American canal by house appropriations committee will not endanger completion of the project, according to J. H. Snyder of Coachella County Water district. E. A. Moritz, director of region three, bureau of reclamation, believed additional contracts would be let before end of June which would leave but 22 miles of the 145-mile Coachella branch of the canal yet to be contracted for. Complete project will deliver enough water to irrigate approximately 75,000 acres. At present about 19,000 acres of irrigated crops are grown, including 95 per cent of the country's dates.

Death Valley is Named Heir . . .

DEATH VALLEY—This famous sink has been named heir to the \$345,000 estate of Mrs. Christine F. McMillan, San Francisco clubwoman and pioneer. Her will directed that entire amount be used for erection of a memorial gateway to Death Valley, dedicated to her dead husband and son, to be constructed of 48 granite blocks, one for each state. Will was expected to be contested by relatives.

REAL ESTATE

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"Sky Ride" 18 Months Away . . .

PALM SPRINGS—Assurance that construction of San Jacinto tramway would be under way this year was given late in May when building contracts were awarded Consolidated Steel corporation, American Steel and Wire company, subsidiary of U. S. Steel corporation, and Morrison-Knudson company. Project, involving outlay of \$2,000,000 to be raised through sale of bonds, will be world's "longest, highest and most breath-taking aerial passenger tramway." Passengers will make the spectacular trip from Palm Springs to snow-topped San Jacinto in three stages: boarding tram from mouth of Chino canyon, they will be taken to mid-point; here they will transfer to another car to proceed to 8500 foot level at Sunset Gap; last lap will be in individual chair tram to 10,800 foot level for skiing and other snow sports. Each car is to carry 54 passengers. Construction is expected to take 18 months.


Mt. Whitney Pack Trains Sold . . .

INDEPENDENCE—After more than 20 years of operating Mt. Whitney pack trains, Frank Chrysler and Ted Cook of Lone Pine, have sold their interests to Norman B. "Ike" Livermore, Jr., of Mineral King.

Hollywoodian Buys a Town . . .

JACUMBA—This resort town west of Imperial Valley again has been sold, lock, stock and barrel—this time to Col. Thomas Lee of Hollywood, according to former owner W. A. Hansen. Sale includes 300 acres land, entire business district and dwellings. Although consideration was not announced, it recently had been offered for \$400,000.

Eighth annual International Desert Cavalcade will be held in Calexico March 13, 14 and 15, 1947, following Imperial County Mid-Winter Fair which will be held at Imperial February 28 through March 9.



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Before leaving on your trip, be sure to drive in for tire service and inspection at *The Sign of the Shell*.

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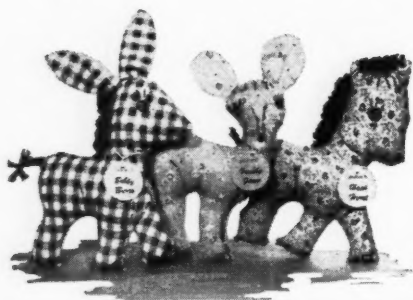
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Frank Bogart has been elected president board of directors of Palm Springs Desert museum. Other officers include H. Carl Hover, Earl Coffman, Lillian Christian, Mrs. O. M. Ward and Edwin F. Leigh. Museum closed May 1, to reopen in the fall.

Census taken in May revealed population of 11,006 residents within city limits of El Centro, and 3000 non-farmers immediately outside city confines.

Indio population in March was 2553, increase of 11.2 per cent over 1940.

NEVADA

County to Buy Bowers Mansion . . .

VIRGINIA CITY — Bowers Mansion, Washoe valley landmark since Comstock Lode days, will be purchased by the county for \$100,000 as soon as \$25,000 down payment is raised by subscription. Sandy Bowers, a placer miner, and Eilley Orrum, a laundress, held adjoining claims, and when the silver lode was uncovered they were thrown into undreamed of wealth. They married and built the mansion, a pretentious showplace, with swimming pools, formal gardens, crystal chandeliers and golden door knobs. After Sandy died, Eilley turned the mansion into a resort, told fortunes, later died a pauper. Present owners are Mr. and Mrs. Henry Riter.

Wants Boulder Dam Name Change

BOULDER CITY — A bill to fix name of Hoover dam on the structure commonly known as Boulder dam was introduced into congress May 6 by Rep. Bennett (R), N. Y., who said the former president should be commemorated for part he played in formulating plans to develop Colorado river.

Basic Lessees Assured Power . . .

CARSON CITY — Following months of negotiations between Nevada and Los Angeles board of supervisors, Governor Vail Pittman of Nevada announced May 20 that Los Angeles had approved sale by city water and power department of 200,000,000 kilowatt hours of electrical power annually from Boulder dam to state of Nevada at a rate of "slightly over three mills." With this assurance present industrial lessees of Basic Magnesium will be able to operate on a permanent basis.

"Homing" Antelopes . . .

LAS VEGAS — Baby antelopes who refuse to be wild are a problem to Frank Groves, agency manager. Transplanted here from Oregon last September and raised at refuge headquarters, Corn Creek ranch, they now are a year old—old enough, Groves thought, to make their own way in the world. Accordingly, he took them ten miles away, left them to forage for themselves in the desert and mountain area. P. S.—They beat him home.

They'll Keep Building Dams . . .

BOULDER CITY — Rumor that Lake Mead would be filled with silt in 100 years has a "catch" in it, according to C. P. Vetter, chief of office of river control, bureau of reclamation. He said in May that although the rumor would be true, if present rate of deposit of about 14,000 freight carloads daily were continued, steps would be taken to prevent such an occurrence. "Before too much silt gets into Lake Mead—in perhaps ten years—another dam will be built above the lake and catch the silt. By the time silt there becomes a problem, another dam will be built farther up, say in another ten years. So everything will work out all right and there'll always be a lake."

May Resume Homesteading . . .

FALLON — Proposals to open an estimated 10,000 acres of land to homestead entry on the Newlands projects are now being considered by bureau of reclamation, it was disclosed at May meeting of Truckee-Carson irrigation district board of directors. It was announced that during this summer irrigation engineers would make a survey and classification of lands that could be reclaimed, with view that desirable units could be opened to homestead entry during 1947. General homestead entries were stopped in 1910 but limited homesteading was permitted until 1926.

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NEW MEXICO

Cibola "Found" Again . . .

GALLUP—Recent exploratory party headed by Harry E. (Two-Gun) Miller and including Milton A. Wetherill, M. L. Woodard and W. T. Mullarky, examined prehistoric ruins north of Lupton, Arizona, near New Mexico line, which Miller believes may have been the Cities of Cibola to which Fray Marcos was referring when he fired hopes of Coronado that his 1540 expedition would lead him to cities of gold. Although historians, including Miller who wrote on the subject in *Early History of the Southwest*, have believed Zuni pueblo was the Cibola center, Miller, after a close study of the ruins which are scattered over about 10 or 12 thousand acres, and a re-examination of the Marcos journal, now is convinced these ruins fit description in the journal. They lie north of the 10,000 or more acres in proposed Manuelito national monument.

Famed Potter Dies . . .

ISLETA — Marie Chewiwi, nationally known pottery maker of this Indian pueblo, died April 28. One of the last Isleta Indians to attend Carlisle school, she was known for the beauty of her English and her gracious manner. Her home on the plaza, where she demonstrated pottery and bread making, was mecca of tourists. Her pottery was exhibited at three world's fairs.

Caverns Discoverer is Dead . . .

CARLSBAD—Often called discoverer of Carlsbad caverns because he was first white man to explore them, James L. (Jim) White, who first let himself into the cave by a rope in 1901, died here April 28, aged 63. He was 19 when he first began to make trips into the vast underground wonderland. He was made chief ranger when it became a national park in 1923. In 1929 he resigned to operate a concession at the 750 foot level.

Poorest Spot—Sickest Spot . . .

SILVER CITY—Mrs. Tom Threepersons, Cherokee Indian and local newspaperwoman, says Navajo reservation is the poorest spot, the blackest spot of illiteracy, the sickest spot and most neglected spot in United States. "If the Navajo Indian reservation were a national forest and the Indians were so many trees," she said, "the government would spend \$30,000,000 a year protecting and maintaining it." As it is, she said infant mortality rate is highest in nation and tuberculosis is 8½ times U. S. average.

"Mr. Dodge Goes to Washington" . . .

GALLUP—Chee Dodge, 86 year old Navajo chief, used plenty of eloquence, both Navajo and English, while appearing before various committees in Washington during May, in his plea for more education for his people in Arizona, Utah and New Mexico. After telling House Indian affairs committee about meager livelihood eked out on reservations and necessity of education if Navajo are to take their place in economy of a white world, during which his lawyer son Tom interpreted, the questioning period started. At this, Chee Dodge really warmed up, leaping to his feet, shaking his magnificent head of white hair, wriggling a dramatic finger, then letting loose a torrent of Navajo. Once, without waiting for translation, he came up with a reply in perfect English. He explained to the astonished committee he spoke Navajo only because many of the 22 delegates with him knew no English. "Actually I had a tremendous education for my day," he assured them. "I went to school for two months."

Indian Ceremonial grounds in Gallup will be equipped with lighting system for night events, it has been decided by Inter-Tribal Indian Ceremonial association, which has agreed to underwrite cost up to \$4000.

Col. Thomas Boles, after 19 years as superintendent of Carlsbad Caverns national park, left in May to become superintendent of Hot Springs, Arkansas, national park, trading posts with Donald S. Libbey.

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All facilities in Mesa Verde national park, Colorado, were open for summer by May 15, according to Superintendent John S. McLaughlin.

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DESERT SOUVENIR

A four-color picture suitable for framing shows the Covered Wagon Train of '68 crossing the desert; now on display at Knott's Berry Place, Highway 39, two miles from Buena Park out of Los Angeles 22 miles. This remarkable oil painting 20x60 feet took over one year to complete. A copy will be mailed you together with the special souvenir edition of our Western Magazine jam-packed with original drawings and pictures and complete description of Ghost Town and Knott's Berry Place. Both will be mailed with current issue of our 36-page magazine for 25 cents postpaid in the U.S.A. Thousands have already viewed this great work of art and acclaim it a wonderful contribution to the history of the West. Admission is without charge whether you stay for the chicken dinner and boysenberry pie or not. Send 25 cents for all three: picture, souvenir and current issue to Ghost Town News, Buena Park, California.

UTAH

North Utah Gets Rain . . .

SALT LAKE CITY—At the end of May, a 36 hour storm, which soaked farmlands and ranges and added additional snow in the mountains, left farmers in northern Utah jubilant but gave little relief to parched areas in southern Utah. Storm centered in Salt Lake City where 2.11 inches moisture were recorded, or a total of 7,665,920 tons of water during the 36 hour period.

Salt Lake Here to Stay . . .

SALT LAKE CITY—There is little possibility that Great Salt Lake will dry up in the next 300 years, says Dr. Thomas C. Adams, former national chairman of committee on lakes, section of hydrology, American Geophysical union. His assurance came in reply to a recent statement that if general trend of the lake for past 96 years is continued the famous sea would be dry in another 300 years. But, says Adams, while rain and snowfall upon which rise and lowering of lake primarily depend are subject to irregular fluctuations of considerable size over periods of several years, when averaged over periods of several hundred years are likely to be nearly constant. Large changes shown by geological studies occur over many thousands of years and in the life of man such change is imperceptible. Dr. Adams pointed out that whenever the lake has receded rapidly, as in the late 1850s, in the '80s, just before 1905 and in recent years, such periods have been followed by ones in which lake rose rapidly, so he believes there is reasonable likelihood we are now entering a period of several years of higher rainfall. "This has been predicted by those who have been studying long period weather changes and the effect upon these of changes in solar radiation."

Utah is Minus One "Stream" . . .

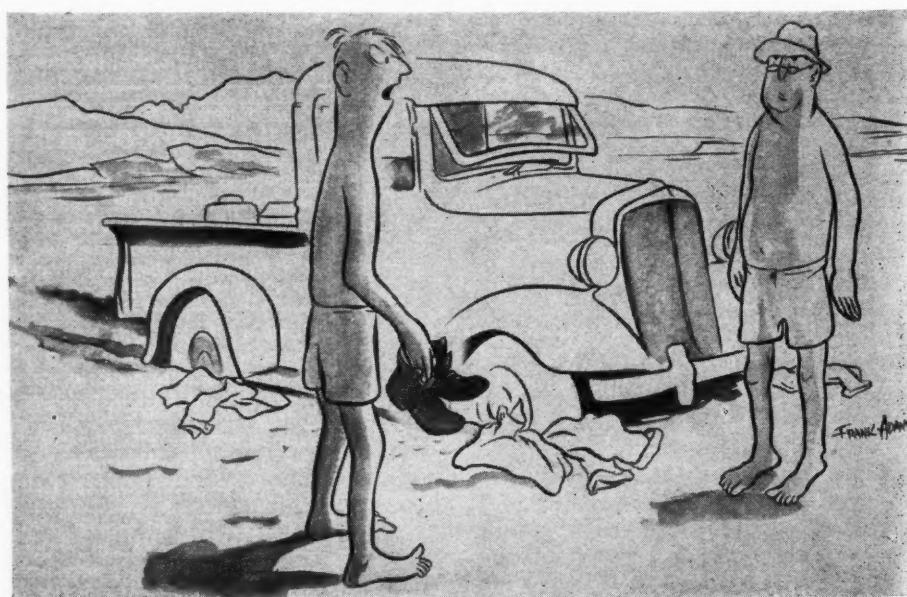
SALT LAKE CITY—Topographers in making maps of Utah have committed the same error for 70 years, according to Charles B. Hunt of Salt Lake City geological survey office. Maps dating from 1885 to present show a Stinking Spring creek, flowing in a southeasterly direction along south edge of San Rafael swell reef in south Emery county. There just isn't a stream there, says Hunt, and his map now being published corrects this as well as other errors which have appeared in maps of that area, one of the most primitive in the nation.

Haldane (Buzz) Holstrom, 37, famous river boatman known for his daring exploits on Green and Colorado rivers, died May 18 of a self-inflicted gunshot wound.

TRUE OR FALSE ANSWERS

Questions are on page 12

- 1—True. 2—True.
- 3—False. Santa Fe is the capital.
- 4—False. Geronimo was an Apache.
- 5—False. The Valley of Fire derives its name from the coloring of its rocks.
- 6—True.
- 7—False. Lake Mead is in Nevada and Arizona only.
- 8—True. 9—True. 10—True.
- 11—False. A rattler has but two fangs.
- 12—False. Desert mistletoe has no leaves.
- 13—False. Chrysocolla comes from copper deposits.
- 14—True.
- 15—False. First date palm offshoots were imported to United States from Africa and Asia Minor.
- 16—True.
- 17—False. The Devil's Golf Course is Nature's work.
- 18—True.
- 19—False. The Mormon battalion was recruited for Kearny's Army of the West.
- 20—True.



"I have still another idea . . . Let's try my shoes and your hat under the front wheels."

THE DESERT MAGAZINE

GEMS AND MINERALS

ARTHUR L. EATON Editor

IMPERIAL VALLEY'S FIRST GEM SHOW IS BIG SUCCESS

Imperial Valley gem and mineral society and Imperial lapidary guild staged the first gem and mineral exhibit ever held in Imperial Valley May 18-19 in Veteran's memorial hall, El Centro, California. The array of gems opened the eyes of many Valleyites to unsuspected beauties surrounding them. At least nine-tenths of the cabochons on display were cut from rocks found in the nearby hills. A wide variety of minerals from common quartz to uranium 235 were on display in addition to cabochons, flats, faceted gems and jewelry. Both organizations were represented almost 100 per cent by exhibitors.

Eva M. Wilson brought desert atmosphere to the show with an exhibit of pressed wild flowers framed and labeled. Pictures resembled flower prints and were so attractively and meticulously done that they looked like paintings rather than pressed flowers.

As is usual in gem exhibits, the fluorescent display was the most spectacular feature. Large stage of the hall was equipped with blinking fluorescent lights which disclosed the almost unbelievable beauty of willemite, fluorite, calcite, scheelite, common opal. Chuck Holtzer and guest exhibitor Ed Rochester from Picacho were in charge of the fluorescents. Members exhibited about one half ton of specimens.

A rock grab bag in charge of Mildred Richardson and Harold Flood helped defray expenses. This was a popular feature, especially with the children, as Mr. Gatlin of Imperial lapidary guild who had a diamond saw on exhibit obligingly cut many of the rough grab specimens. Some exquisite stones were given away as door prizes.

Geodes mounted on a turn table with a magnifying glass fixed so that their fairyland beauty could be appreciated were a feature of the exhibit by Mr. and Mrs. George Moore and seven year old Gregory. Ed and Ella Stevens showed

a wide variety of material from fossils to crystallized minerals. John and Alora Fick specialized in Mexican opals. Mr. and Mrs. Chuck Holtzer showed an excellent variety of material as did Arthur and Louise Eaton.

Beauty of the cabochons, flats and jewelry on display was indescribable. Each stone was absolutely individual. Craftsmen to be envied were Leo DeCelles, Blackie Beale, Leon Miller, Sam Payson, Sam Robinson, Harry Seaman, Lloyd Richardson, Chuck Holtzer, Ed Stevens and George Moore. Their gems would be tops in any show.

Outside exhibitors were Mr. and Mrs. Ed Rochester, Picacho, wulfenite, vanadinite and other minerals and fluorescents; Glenn Vargas, Indio, a huge geode with six crystal pockets; Sterling Kendrick, Holtville high school, local minerals; Murl Elliott, Holtville, cut aquamarines, jade, sapphires, Mexican diamonds; Clyde Field, San Diego, opals.

Members exhibiting were Eva Wilson, desert flowers, Sidewinder material; Sam Payson, cabochons, flats; Sam Robinson, cabochons, mineral specimens; Arthur and Louise Eaton, ores of 50 elements used commercially, cut and uncut opals; Mr. and Mrs. Leo DeCelles, cabochons, flats, thunder eggs, jewelry; Mr. and Mrs. L. G. Beale, cabochons, flats, agates, wood; Mr. and Mrs. John Fick, opals, calcite; Esther d'Eustachio, varied specimens; Ed and Ella Stevens, crystallized minerals, flats, cabochons, fossils; Gatlin, rock saw; Mr. and Mrs. C. K. Patton, cabochons, minerals; Mr. and Mrs. L. E. Richardson, cabochons, facets, crystals, minerals; Mr. and Mrs. Harry Seaman, cabochons, flats, rhyolite; Harold Flood, mineral oddities; Mr. and Mrs. Chuck Holtzer, mineral ores, cabochons, facets; Mr. and Mrs. Ira Huffman and Marjorie, minerals, geodes, limonite; Mr. and Mrs. George Moore and Gregory, thunder eggs, geodes, cabochons, flats, minerals; Mr. and Mrs. Leon Miller, thunder eggs, flats, cabochons, jewelry; Randall Henderson, magazines.

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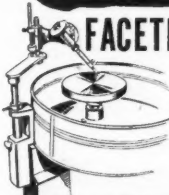
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AMONG THE ROCK HUNTERS

H. Clifford Burton of Ruth mine was scheduled to speak at May 19 meeting of Searles Lake gem and mineral society. Robert Cartter donated a beautiful kodachrome print of an Alaskan lake to be raffled. Red Rock canyon was field trip goal. Specimens of petrified wood, jasper, agate, chalcedony, bloodstone and geodes may be found at Red Rock. Searles Lake group plans gold and purple windshield stickers picturing a hanksite crystal.

Phillip M. Kerridge, lieutenant commander U.S.N.R., was scheduled speaker for May 16 dinner meeting of Los Angeles mineralogical society on topic of synthetic gems. May 30-June 2 field trip was planned to Idyllwild in the San Jacinto mountains for relaxation—with some rock hunting on the side.

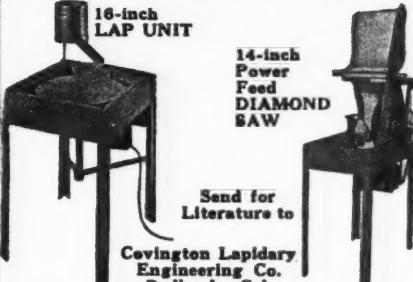
Pomona Valley mineral club, Pomona, California, elected the following officers at May meeting: Fred W. Kroger, president; Earl Knie, vice-president; Mrs. James A. Kryder, secretary; Mrs. David Bradfield, treasurer. M. P. Pearson, local gem authority, spoke on gem minerals.

H. S. Keithley, former secretary Mineralogical Society of Arizona, has a new address: 81 Elm street, Covington, Tennessee.

Richard Buhlis, secretary Arkansas mineralogical society, displayed 16 cases of specimens and gave an interesting talk at May meeting of Long Beach mineralogical society. One outstanding specimen shown was a doubly terminated cinnabar crystal. A record attendance of 175 heard Mr. Buhlis' talk. Trona area was May field trip objective.

May issue of Trade Winds, hobby magazine published by Paul and Bessie Walker, Beaumont, California, has an interesting item on the Stockton curve, obsidian weapon of pre-caucasian Indians.

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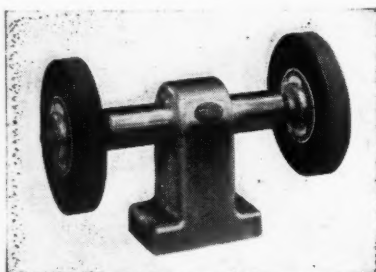
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H. C. Tilliman, San Jose, spoke on the Carlsbad caverns and petrified forest at April 11 meeting of Monterey Bay, California, mineral society held in Salinas Y.M.C.A. Tilliman showed interesting slides taken on his trip. May 15 was potluck dinner and discussion meeting with displays arranged by members. Dr. R. W. Blaylock, Salinas, showed fossils, Indian relics, rough and cut minerals; Ann Schuhmann, Santa Cruz, discussed specimens she had brought and asked for identification of some unknowns. W. P. Kolb, San Lucas, displayed an emerald crystal and several large nuggets; Charles Murphy, Los Gatos, told of a trip with East Bay mineral society to Knoxville mines and Calistoga. A. W. Flippin conducted a raffle. May 19 field trip took the group to Stone canyon where were found jasper specimens and a rattlesnake.

Mineralogical Society of Southern Nevada concluded an active season with a meeting May 6 in Las Vegas high school. Regular meetings and field trips will be resumed in September. Informal gatherings are planned for the summer months.

Andrew J. Thickstun of Twining laboratories, Fresno, California, was speaker at May 7 meeting of Sequoia mineral society held in Parlier high school. After June, meetings usually are held outdoors.

Norman Sumner, army veteran, of Chatsworth, California, and companions were hunting for mineral specimens south of Quartzsite, Arizona, in April, when he was seriously injured by cave-in of a prospect hole. Suffering from a back injury, he was brought to Palo Verde hospital, Blythe, then transferred to Corona naval hospital.

Member speakers entertained and enlightened Pacific mineral society at May 10 dinner meeting held in Eleda restaurant, Los Angeles. E. Burris Bingham spoke on determination of minerals by semi-microscopic methods; Wm. C. Oke, microscopic determination of minerals; O. C. Smith, mineral determination by specific gravity, color and crystallization.

Dr. Robert Webb, associate professor of geology U.C.L.A., discussed pictorial history of the geology of the southern Sierra Nevada of California at regular May meeting of Mineralogical Society of Southern California, Pasadena. Field trip was planned May 18-19 to feldspar locality near Cinco. Camp was to be pitched in Red Rock canyon.

Minnesota mineral club, 3537 Oakland avenue, Minneapolis 7, held first annual exhibit April 14 in Curtis hotel. The group now lists 72 members. First field trip of the season was planned for May 12 to the Stillwater area. William Bingham is president.

Organization of Hollywood Lapidary society is announced by Mrs. Mildred B. Garfield, publicity and membership committee. Officers are Dr. Mac Corkell, president; Thomas Roach, vice-president; Miss Virginia Fraser, secretary; Henry Agin, treasurer. Ten cars of enthusiasts enjoyed the group's first field trip May 26, to Acton, where they found howlite, banded agate, some jasper and petrified wood.

Showing of a movie on making of laminated plastics and their uses was the main event of May 21 meeting of Seattle Gem Collectors club.

Earth Science Digest, a new publication for geologists, collectors and gem cutters, is scheduled to have its first issue off the press August 1, at Omaha, Nebraska. It will feature illustrated articles, including maps of famous geological sites, and will report activities of various earth science clubs.

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Correction—Page 35 in June Desert, "old Butterfield stage route" should read "old Bradshaw stage route."

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Cogitations . . .

Of a Rockhound

By LOUISE EATON

Didja ever get ready f'r a rock show? Weeks ahead yu starts to figger what yu'll display an' as the time gets clost papa rockhoun remarks, "Why can't we spred out these specimens on the dining table? If we puts in the extra leaves there'll be about room enuf. We can eat off uv the card table for a day 'r two." "O.K.," sez mama rockhoun. So for a day 'r two that wurks; but pritty soon the rox overflows the dining table an' gets layed on the card table, mantle, chairs an' all uther available flat surfaces. Papa an' mama rockhoun has to sort uv eat aroun here an' there with mama rockhoun sincerely hopin no onexpected company 'll cum. But most genrally sumboddy duz.

Weather sumtimz influences evun rockhouns an' dictates their activities. In May when desert rockhouns is regretfully stowing camp gear till fall cums aroun, uther rockhouns up in Minnesota is jus gettin ready for first field trip uv the season. Sum few lucky individuals can trek with the seasons to rock territory. Maybe they'll establish a new breed uv rockhouns: rock-tramps. Or rockhoboes.

Genevra Dow of Pomona Valley mineral club reports that the sphene, a rare gem of great brilliance and color which M. P. Pearson displayed at May meeting, was the most wonderful stone she has ever seen. Sphene is a form of titanite, a near relative of rutile. The word sphene comes from the Greek word meaning wedge, which is the form of titanite crystals. Sphene ranges from colorless through red, yellow, green, brown to black; hardness 5 to 5.5; specific gravity, 3.4 to 3.56; luster, adamantine to resinous; transparent to opaque.

Nebraska mineralogy and gem club, Omaha, took an all day trip May 26 to Lincoln, where they met in Antelope park and later visited the mineral exhibits, fluorescent display and elephant hall at Morrill hall. Prof. E. F. Schramm, of Nebraska University department of geology and mineralogy, talked to the group at the hall. Members brought specimens for display.

At June 1 meeting of East Bay mineral society, Oakland, the last meeting of the season, following officers were installed for the coming year: B. N. Porter, president; L. H. Zimmerman, vice-president; Mrs. Frances Nieman, secretary; Ralph O. Fox, treasurer; R. O. Deidrick, O. J. Bell, L. J. Hostetter, directors.

San Fernando valley mineral and gem society, North Hollywood, California, heard a series of brief but instructive talks at May meeting: President J. L. Mikesell discussed crystallography; Charles Clark, physical properties of minerals; Louise Junkin, willemite; Kilean Bensusan, fluorite; Wm. Taylor, a demonstration of chemical tests for minerals. The society is sponsoring a lapidary class to be held at homes of members who have equipment.

At their June 4 dinner meeting at De Anza hotel, San Jose lapidary society enjoyed a sound picture shown by W. A. Vagedes of Marwedell company, San Francisco, on Norton abrasives which are used for cutting and polishing all kinds of material. Dollar grab bags were sold for 10 cents.

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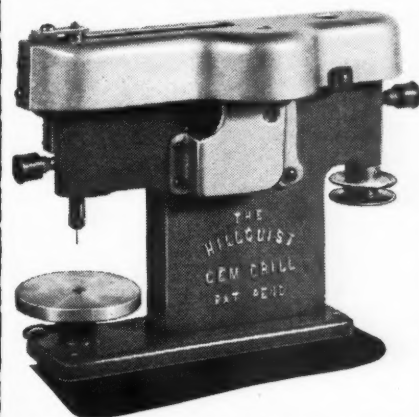
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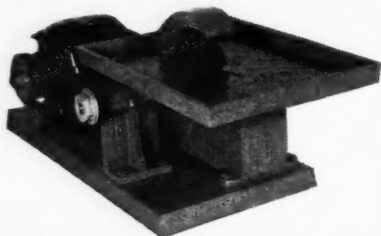
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PORTLAND 1, OREGON

Orange Belt mineralogical society elected the following officers at annual May dinner meeting in San Bernardino: Mrs. D. H. Clark, Redlands, president; Dr. W. F. Fox, Riverside, vice-president; Mrs. A. Wade, 114 Parkwood drive, Redlands, California, secretary; Capt. Kennedy, Redlands, treasurer; Ralph Eells, Norco, federation director; I. V. Graham, Mrs. A. B. Brown, Dr. Zemple, P. Burk, B. Carpenter, directors. Many prizes were awarded to members and guests. There were 95 members and guests present.

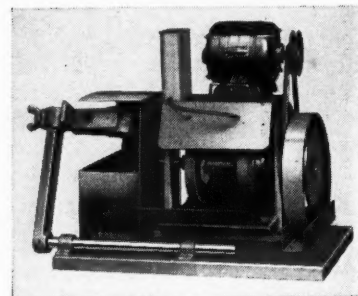
Ruth Simpson, curator Heard museum, was guest speaker at May 2 meeting of Mineralogical Society of Arizona, Phoenix. She gave an illustrated talk on Hohokam industries. Yearly Jamboree, top event of the season for the society took place May 16. May field trip was to Date creek, quartz crystal area.

San Diego museum association elected the following at 30th annual meeting: Gordon Pettit, president; Addison E. Housh, vice-president; William J. Adams, secretary; Emily Clayton, treasurer.

Dr. Charles A. Anderson of U. S. geological survey described the two processes by which geodes and nodules are formed, at May meeting of Yavapai gem and mineral society. One is the replacement method, by which mineralized liquids precipitate into a soft matrix, such as chalk or shale. In the other method the same kind of liquids seep into a hardened gas bubble formed at one time in hot lava. There was a large attendance and a nice display of geodes and nodules.

Bulletin of Marquette geologists association, Chicago, is now published with a front cover inside which are listed objectives, officers, directors, time and place of meetings.

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"Canaries" they call 'em in the Rocky mountains, but out here on the desert they still go by the name of burros—and they'll still go places that a jeep cannot travel. Anyway, Desert wants some good burro pictures, and the prizes in the July photographic contest conducted by this magazine will be awarded for the best burro pictures submitted.

Prizes are \$10.00 for first, \$5.00 for second place winner, and \$2.00 for each non-winning photo accepted for publication. Pictures must reach the Desert Magazine office not later than July 20, and the winning photos will be published in the September issue.

HERE ARE THE RULES

- 1—Prints must be on black and white, 5x7 or larger, printed on glossy paper.
- 2—All entries must be in the Desert Magazine office by the 20th of the contest month.
- 3—Prints will be returned only when return postage is enclosed.
- 4—Contests are open to both amateur and professional photographers. Desert Magazine requires first and full publication rights of prize winning pictures only.
- 5—Time and place of photograph are immaterial except that they must be from the desert Southwest.
- 6—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.
- 7—Each photograph submitted should be fully labeled as to subject, time, place. Also as to technical data: shutter, speed, hour of day, etc.

ADDRESS ALL ENTRIES TO PHOTO EDITOR, DESERT MAGAZINE.

THE *Desert* MAGAZINE
EL CENTRO, CALIFORNIA

AMATEUR GEM CUTTER

This page of Desert Magazine is for those who have, or aspire to have, their own gem cutting and polishing equipment. Leland Quick, who conducts this department, is former president of Los Angeles Lapidary society. He will be glad to answer questions in connection with your lapidary work. Queries should be addressed to Desert Magazine, El Centro, Calif.

By LELANDE QUICK

When I announced several months ago that I would publish a list of all the gem and lapidary societies, and those mineral societies having gem cutting as a part of their program, I never realized that I would accumulate a list of 30. While I am surprised at this I don't think I will be amazed at all if a similar list compiled two years from now is twice as big. So much is being written in newspapers and magazines about gem cutting that it is spreading over the country like wildfire. If you are interested in gems or gem cutting even mildly and live near any of the following organizations, why not visit them? I am sure you will be welcome at any meeting. Get to see a member's lapidary shop for you'll learn more in one hour in a good shop than in 24 hours of reading.

Of course this is no complete list. There probably are dozens of societies in the east, where this magazine isn't as widely distributed as in the gem cutting areas of the West, that knew nothing of this compilation. I have not included in this list the name of any organization that has not included gem cutting activities in its title. However, I doubt if a new mineral society has been organized in the past five years that has not indicated an interest in gems by including the word in its name. If I have missed a society here and there I would be grateful to hear of it for future reference. Here is the list alphabetically arranged by states and organizations:

Arizona—

Yavapai Gem and Mineral Society. Ida Smith, Secretary, Box 1084, Prescott. Meets second Thursday, 7:30 p. m., Court House, Room 14, Prescott.

California—

Desert Gem and Mineral Society. Glenn Vargas, Secretary, Box 53, Blythe. Meets second Monday, 8:00 p. m. at home of Norman Brooks, Blythe.

Glendale Gem and Lapidary Society. Ruth Rowan, Secretary, 446 Federal Bldg., Los Angeles. Meeting night not established.

Hollywood Lapidary Society. Miss Virginia Fraser, Secretary, Phone Gr. 0674. Call secretary for meeting time.

Imperial Lapidary Guild. L. G. Beale, Secretary, 575 Euclid Avenue, El Centro. Meets second Friday at members' homes, El Centro.

Imperial Valley Gem and Mineral Society. Grace Huffman, Secretary, 504 El Centro Avenue, El Centro. Meets first and third Saturdays, 8 p. m., Court House, El Centro.

Lodi Gem & Mineral Club. Dorothy Bowen, Secretary, Lodi. Meets third Wednesday, Lodi High School.

Los Angeles Lapidary Society, Inc. Willella Gunderson, Secretary, 2152 West 83 Street, Los Angeles. Meets first Monday, various times and locations. Membership closed but visitors welcome.

Old Baldy Lapidary Society. Ethel Dyer, Secretary, 300 Glenwood Avenue, Glendora. Meets third Monday at members' homes in vicinity of Old Baldy (Mt. San Antonio).

San Fernando Valley Mineral & Gem Society, Inc. Charles W. Clark, Secretary, 1131 N. Ontario Street, Burbank. Meets second Thursday, 7:30 p. m., Valley Vista Women's Club, 12611 Van Owen Street, North Hollywood.

San Jose Lapidary Society. Charles Murphy,

Secretary, Box 514, Santa Cruz. Dinner meetings, first Tuesday, De Anza Hotel, San Jose.

Santa Monica Gemological Society. Estelle Tesh, Secretary, 2446 11 Street, Santa Monica. Meets first Thursday, 8 p. m., Bungalow 28, Santa Monica City College.

Searles Lake Gem and Mineral Society, Inc. Diane Adler, Secretary, Box 1315, Trona. Meets third Wednesday, 8 p. m., Trona Club, Trona.

Stockton Gem & Mineral Club. Mrs. George Chalker, Secretary, 745 N. Edison Street, Stockton. Meets first Friday, High School Bungalow, Stockton.

Ventura Gem and Mineral Club. Francis Hertel Jr., Secretary, 60 Lincoln Drive, Ventura. Meets second Saturday, 7:30 p. m., Court House, Ventura.

Western Lapidary & Jewelry Society. Helen Butler, Secretary, 1136 N. Reese Place, Burbank. Meets fourth Wednesday, 7:30 p. m., Roscoe Recreation Center, 8133 Vineland Avenue, Roscoe.

Idaho—

Owyhee Gem & Mineral Society. Meets third Wednesday, 8 p. m., Coville Chemistry Bldg., Caldwell. Loan collection of cabochons available.

The Idaho Gem Club, Inc. Meets second Tuesday, 8 p. m., 319 8th Street, Boise.

Illinois—

Chicago Lapidary Craftsmen. Meets first Tuesday, 8:30 p. m., Austin Town Hall, Lake and Central Avenues, Chicago.

Oregon—

Oregon Agate & Mineral Society. Meets first and third Fridays, 8 p. m., Northeast Y.M.C.A., 1630 N. E. 38th Street at Broadway, Portland.

Utah—

Gem Stone Collectors of Utah. Mrs. Ila Nelson, Secretary, 226 East 27th Street South, Salt Lake City 5. Meets third Thursday, 8 p. m., Newhouse Hotel, Salt Lake City.

Washington—

Gem Collectors Club, Inc. Mrs. J. Frank Murbach, Secretary, 5927 49th Street S. W., Seattle 6. Meets third Tuesday, 8 p. m., Chamber of Commerce Bldg., 215 Columbia Street, Seattle.

Gray's Harbor Geology & Gem Society. Miss S. Loine Floyd, Secretary. Meets third Friday at members' homes in Aberdeen and Hoquiam.

Kitsap Gem & Mineral Society. Meets third Tuesday, 7:30 p. m., Quallhiem Hall, Arsenal Way, Bremerton.

Oak Harbor Gem Club. Meets first Monday, 8 p. m., at members' homes in Oak Harbor on Whidby Island.

Snohomish County Mineral Society. J. M. Swartz, Secretary, Everett, Washington. Conducts a course in lapidary art once a year for ten weeks at the Junior College, Wednesday nights.

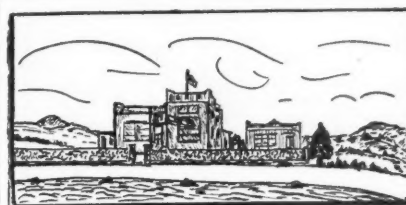
Tacoma Agate Club. Bessie M. Ross, Secretary, 3819 A Street, Tacoma 8. Meets first and third Thursdays, 8 p. m., Y.M.C.A.

Washington Agate & Mineral Society. Meets first Friday, 7:30 p. m. at members' homes in Olympia.

Willapa Harbor Gem Society. Meets first Friday, 8 p. m., at members' homes in Raymond and South Bend.



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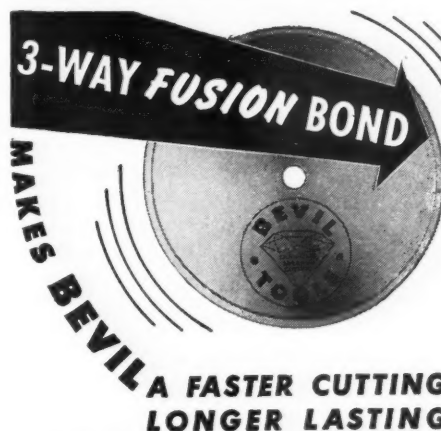
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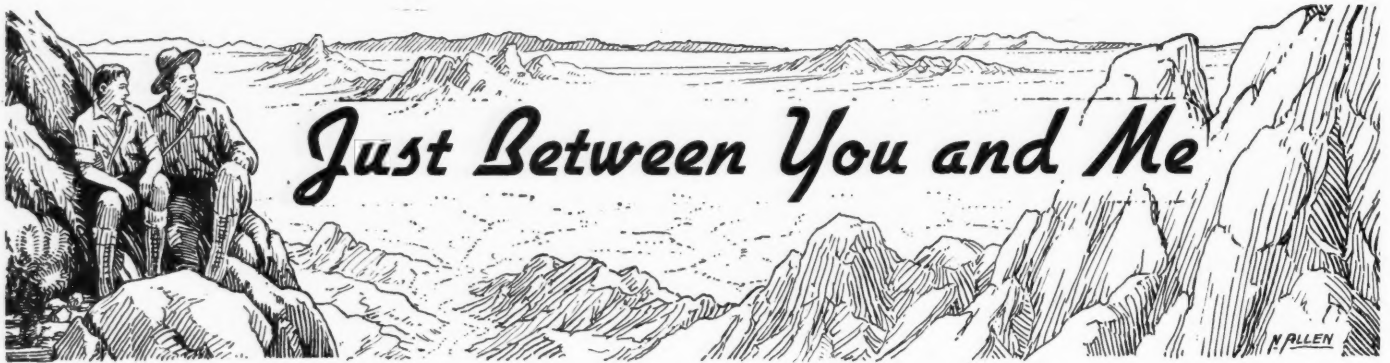
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By RANDALL HENDERSON

A FEW weeks ago the desert bajadas flamed with the golden glow of palo verde blossom. *Lluvia de oro*, shower of gold, the Mexicans call palo verde when it is in bloom—and it deserves the name.

And now on June 1 the palo verde flowers are gone and along the arroyos the smoke trees are wearing their clouds of royal blue. J. Smeaton Chase in his *California Desert Trails* painted a glowing word-picture of the smoke tree. He wrote:

"... it is wholly pale gray, a mass of prickly interlaced twigs that at a distance has much the same look as a cloud of smoke. It is the characteristic plant of the washes or water-courses. I have often found the beds of these fugitive streams filled for miles with this ghostly semblance of a river. To see this phantom river come winding out, snake-like, upon the plain from some red, mysterious canyon brings nightmare thoughts of the grim genii, Thirst and Famine, that might here have their abode.

"In the early summer one may see this torrent turn suddenly from gray to the liveliest color. The smoke tree, like the palo verde, makes up for absence of foliage by a huge burst of blossom. In this case it is blue, the purest ultramarine, each tree a cloud of small pea-like flowers that as they shrivel and fall collect in windrows like drifts of azure snow. Some day a painter will chance upon this sight, and at danger of death by thirst will refuse to move from the spot until he has fixed upon canvas the desert at its highest color power. He had better, though, be a painter unusually reckless of his reputation, for all the world will swear he lies."

* * *

In the colossal contest for power now going on between management and labor, the referee has been taking more punishment than the contestants during the past few months—the referee in this case being you and me as represented by our government.

We may not all be in accord with all the policies of our government—but it is the only one we have, so if we are to continue to enjoy the privileges of free citizens we had better give it what loyalty we can. Heaven help us if the time ever comes when the monopolistic policies of either labor or management became too powerful to be controlled by the federal government.

But the situation isn't too bad. As President Truman pointed out during the past week, the country is perfectly safe when the liberal Senator Pepper, the conservative Senator Taft, the Communist Daily Worker and the Wall Street Journal all unite in a common front in opposition to presidential policies. As far as I am concerned, that is the best testimonial yet given in behalf of the President's program.

* * *

It is refreshing to turn from the babble of the daily newspapers to the pages of Laura Adams Armer's *Southwest* and read:

"Man... busies himself with invented tasks, where he hopes to be the master of the day's regime. The thing he invents soon masters him. He knows frustration and he forgets the far stretches of the earth, the depths of the upper darkness. He

knows only machines snapping the hours in iron jaws, chopping eternity into finite minutes and seconds, arranged in battalions of eight-hour days, marching to the dirge of industrialism.

"Out of the deep center of life the stream of beauty flows on through the ages. Hidden most of the time, but bursting forth at intervals in creative activity, the fountain of the deep proclaims a living Source. Drought on the surface is inevitable at times. Destruction wastes at noonday, but the mysterious power which the Navajo call the endless wise one, glides silently through the universe."

* * *

Recently I spent a pleasant evening with my friends Florence and George Schisler in the sunny home they built on top of a sand dune in California's valley of dates, the Coachella. George has been selling desert real estate since the days when date growing was an infant industry there.

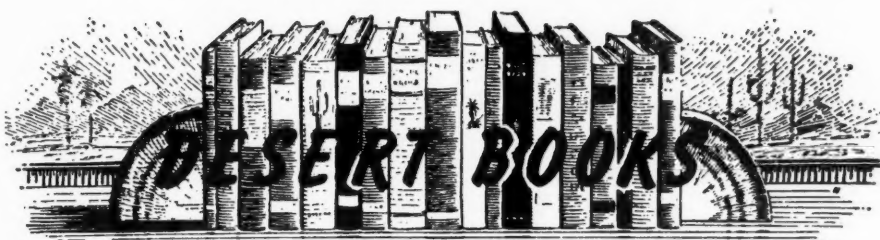
The post-war boom in real estate has been given added impetus in the Coachella valley by a branch of the All-American canal, now under construction to bring Colorado river water to this area. The canal is scheduled to be finished in the next two years and land prices in some instances have advanced more than 1000 per cent. During the past winter mature date gardens sold as high as \$5000 an acre.

Some of the real estate men selling desert property deserve the good fortune that has come to them. There are three kinds of realty brokers, (1) those who regard any deal that pays them a commission as a good deal, (2) those who mean to be honest, but are too ignorant of their product always to serve the best interests of buyer and seller, and (3) those who not only know their land, but take the trouble to ascertain if the best interests of both buyer and seller are being served by the transaction. George Schisler is one of the latter.

It is good for every human to own a bit of real estate—but buyers of desert property should keep in mind that while location is an important contributing factor, an assured water supply is the basis of all desert land values. Soil without water is not worth five cents an acre unless it has mineral values. That is true anywhere, but in a land where the rain gods are not too generous with their showers it becomes increasingly important that the investor recognize the availability of water as the No. 1 essential.

* * *

A word of appreciation to Newton B. Drury, director of the national park system, for his recommendation to the Secretary of Interior that parks and monuments remain closed to airports and landing fields. The airlines may build their facilities on adjacent land if they wish—but not inside the park boundaries. Folks go to the parks to enjoy the natural scenery, and it is not conceivable to me that the public advantage of landing fields within these playgrounds would compensate for the destruction involved in clearing runways to accommodate the passenger planes.



HISTORY OF SOUTHWEST TOLD IN STORY OF SHEEP

Soon after publication in 1945 of Winifred Kupper's *The Golden Hoof*, there appeared another book on sheep which while not based so closely on personal experience is more comprehensive, embracing all the Southwest states. Although lacking the drama that a firsthand account can inject, much human interest is introduced from eyewitness accounts as recorded in published manuscripts, in diaries and journals.

After reading the first page of *SHEPHERD'S EMPIRE*, by Charles Wayland Towne and Edward Norris Wentworth, it is immediately apparent that the history of sheep in the Southwest is closely woven with the general history, from Coronado in the 16th century to the days of the American pioneer.

This story of sheep presents a more intimate picture of Southwest history than a mere chronicle could. In the words of many of the first adventurers into the Southwest, their close association with sheep is picturesquely and forcefully told.

Later, after the first explorers broke trails, and settlers started to move in, sheep again played a dramatic role, this time in a fight with cattlemen for grass. The Graham-Tewksbury feud and other battles of the Tonto basin provided material for Zane Grey's *To the Last Man* and Dane Coolidge's *The Man Killer*.

Exciting, if not glamorous phases of history are revealed in the great overland trail drives which were made from 1870 to 1900, when at least 15 million sheep were driven to market. The economics and historical significance of the drives is enlivened by pictures of camp and trail life.

Lore of the sheepherders—their songs and stories and their lonely life—is a chapter pungent with the flavor of remembered scenes. In commenting on the nature of a sheepherder the authors quote from Mary Austin's *The Flock*, in which she says that "with all my seeking into desert places there are three things that of my own knowledge I have not seen—a man who has rediscovered a lost mine, the heirs of one who died of the bite of a sidewinder, and a shepherd who is insane." But she admits she has heard of them.

The sheepherder's life is further portrayed in chapters on the enemies of their flocks—wolves, coyotes and other predators, poison plants and drought, and in descriptions of methods of handling sheep, the role of their dogs, and shearing and

lambling. After reading the latter chapter the reader will be better informed than the Washington official who is reported to have made the following helpful suggestion in answer to a plea to the war production board for sufficient canvas to provide lambing shelters: "It is impossible to allow you such a large amount of canvas for the purpose of making lambing sheds. As an alternative, we suggest that you postpone your lambing season until more favorable weather."

University of Oklahoma Press, Norman. 27 illus., 10 maps, biblio., index. \$3.50.

COMIDAS MEXICANA GOOD ENOUGH FOR ANY GOURMET

Erna Fergusson, a real Southwesterner, has made a collection of Mexican recipes which will add zestful variation to menus in any American home. These authentic foods not only offer a taste adventure for gourmets but they preserve for posterity a phase of the old Spanish and Mexican culture of the Southwest.

Early New Mexicans took their food seriously—in fact, it occupied a large proportion of their day, beginning with early "little" breakfast in bed, followed by the real breakfast, a late morning "pick-up," the heavy noonday meal, the afternoon session of sweet cakes and chocolate, and a very simple supper of chicken or spare ribs, vegetables and corn meal dishes—undoubtedly there was a genuine need for the siesta from noon until 4 p. m. Although modern eating habits are far removed, delicious menus can be built around the dishes offered by Miss Fergusson—and she gives some suggested *comidas*.

Yes, there's red chile and there's green chile, but the dishes aren't nearly as *caliente* as some "chile joints" would have one believe. There also are directions for making tortillas, although Miss Fergusson says one really should have a line of Indian ancestry running back about 500 years to make them correctly. What she says can be done to chicken, to cheese, to beef—or just plain hamburger, makes you want to live through some of those six and seven meal days, too.

This is a reissue, by popular demand, dressed up with new illustrations and jacket, and with additional recipes and more simplified directions. All recipes have been tested, and ingredients can be found in nearly any American food store.

University of New Mexico Press, Albuquerque. \$2.00.

BOOK BRIEFS . . .

Haniel Long, New Mexico author of *Piñon Country*, recently completed a volume of poems, *The Grist Mill*, published by Rydal Press, Santa Fe. Although some of the poems are Southwestern, they cover a wide range of subjects.

First fiction written by Mildred Gordon, former Tucson resident, is a mystery novel, *The Little Man Who Wasn't There*. Setting is mythical ranch in Baboquivari area south of Tucson. Published by Doubleday and Company, Garden City, N. Y.

Rio Renegade, fifth novel by Leslie Ernenwein, Tucson author of popular Western and detective stories, was published in April by Robert M. McBride & Co., New York.

In *Tempered Blade*, published by Bobbs-Merrill company, Indianapolis, Monte Barrett tells life story of Jim Bowie, whose name is remembered chiefly because of the Bowie knife which he fashioned. Life of this Texan was as turbulent as history of his state in early 19th century. He was backwoodsman, planter, millionaire, slave trader, general, and died at the Alamo when the hordes of Santa Anna moved in.

Barbara Latham, Taos artist, is illustrator for *The Baker's Dozen*, a new children's book by Rosa van Rosen. Recently published by Appleton-Century company, New York.

The Intruders, with background in a small Southwest town, is a new novel by Robert Bright, whose first was *The Life and Death of Little Jo*.

John L. Sinclair, custodian of Coronado state monument at Bernalillo, New Mexico, and author of *In Time of Harvest* (see *DESERT* July 1944), has written another novel, this time about Dust Bowl people. *Death in the Claimshack* will be published by Caxton Printers.

American Diaries is an annotated bibliography of American diaries written prior to 1861, compiled by William Matthews assisted by Roy Harvey Pearce and published by University of California Press in 1945. Nearly 3000 diarists and 4000 diaries are dealt with. Each entry gives brief biographical data, notes of contents and bibliographical record. Arrangement is in chronological order. Many of these diaries were written by the earliest explorers in the Southwest. A valuable reference for libraries, collectors of Americana, for scholars in history, genealogy, biography, literature, sociology. 383 pages. Cloth \$4.00, paper \$3.50.



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